மதுரை மாவட்ட

பண் 8963

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செப்பனிடுவதற்காக எடுத்துக் கொள்ளப்பட்ட

அக்டோபர் மாதம் வருடம் 1984

செப்பனிட்டு முடித்த

அக்டோபர் மாதம் வருடம் 1984

ஆராய்ச்சி உதவியாளரின் கையொப்பம்.

Original

List of Retainable papers for 1843/44

Received Letters. P. Works — Madura Collector's Office.

S No. 8763

G No. 30093

Date	Number	From whom received	Substance
…-43	11	Civil Engineer 8th Dn	Furnishing him with a set of rules to be observed in preparing estimates for the repairs of tanks.
7-1-43	15	Offg Secy to the Govt of India	Conveying the sanction of the Honorable the President in Council for al[illegible]ting waste land of the annual value of Rs [illegible] for the support of a choultry [illegible] structed for the accommodation of Native travellers by [illegible] Native at Cothumpondy in the [illegible]
…-43	11	Civil Engineer 8th Dn	Requesting to furnish him with an account particulars of the expenditure on the total amount of Rs 14155-3-6 sanctioned from Pagoda fund for the repairs of various roads in the Madura dt.
…-2-43	11	Asst Surveyor 8th Dn	Begging to be informed if he is to attend to the request of the [illegible] in superintending the construction of the [illegible] Madura [illegible]

List of Retainable papers for 1843-44

P. Works

Received Letters. Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
-6-43	"	Asst Surveyor 8th Dn	Stating that on the commencement of the work in question the grounds (each 40 to 60 ft) were disposed of by public auction from 6 to 75 Rs each
-10-43	539	Ag Secy Bd of Rev D	Forwarding a letter from the Principal Collector of Madura, covering copy of a form of grant or deed of sale which he proposes to issue to "such persons as have taken up ground on the ramparts & ditch of Madura fort".
25-1-44	"	Civil Engineer 8th Dn	Correspondence relating to certain works recommended for his consideration
-1-44	"	Do	furnishing him with a detailed occasional estimate for the repair of a portion of Road No 17 between Nellacottah & Palkanorth

List of Retainable papers for 1843-44

Received Letters Public works Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
12/44	..	Civil Engineer 8th Division	Correspondence relating to the improvements in the town of Madura [illegible]
1/44	..	do	Forwarding estimates for a jungar and bridge over the Aunvottee River at Vayloor on Road No 2.
2/44		do	Informing that the ferry mentioned in over on the Aunvottee River near Vayloor on the road from Dindegal to Palaghaut via Pulney & forwarding a plan & estimate for a Bridge over the same river
2/44		do	Correspondence relating to the subject of the Autoor Bridge over the Codaganar

List of Retainable papers for 1843/44

Received Letters. Public Works. Madura Collector's Offic

Date.	Number.	From whom received.	Substance.
/3/44	180	Civil Engineer 8th Division	Correspondence relating to the construction of the Autoor Bridge over the Kodavanaar
/5/44	154	Ag Secretary to the Board of Revenue	Promising to recommend the Collr's proposition regarding the construction of the Amaravati bridge over the river, provided it be executed at the joint cost of the Govt & private individuals.
Do	40	Ag Secretary to the Board of Revenue Dr. P.W.	Intimating his Excellency's opinion that the work cannot be undertaken at the cost of the Govt until a reference is made to the Government of India

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List of Retainable papers for 1843-44

Received Letters. *Public works* Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
[illegible]/44	"	Civil Engineer 8th Division	Correspondence relating to the repairs to the Kettlem Perrapitchen Anicut in the limits of Nanarapetty on Road No 4
5/4/44	"	do	Correspondence relating to the Revised & ordinary & occasional estimate for the Iyer-pully Rajana [illegible]
-4-44	"	do	Furnishing him with a plan & estimate of the proposed additions to the bridge over the Codamanar near Autoor for the guidance of the superintending maistry
-4-44	"	do	Informing him that inverted arches or pavements in the bracketed portions of Road No 4 south of Meylore would answer best.
-4-44	"	do	General remarks on the superintending estimate for the repair of portion of road No 11 from Ramnad to Mandalore [illegible] Tirputhur [illegible] direction

List of Retainable papers for 1843/44

Received Letters. P. Works Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
13-5-44	"	Civil Engineer 8th Dn	Returning the occasional estimate for repairs to the Iyempully Rajah vaikal & suggesting the propriety of adding to the amounts in columns Nos 39 & 40.
"	"	"	Extract of a letter from the Actg Secy to the Bd of Rev to the Chief Secy to Govt dy 4-4-1844 No 213, relating to an estimate amounting to Rs 620-15 for constructing under sluices in the Sholavendan Periancy across the Vigay river
3-6-44	358	Secy to the Bd of Rev F Dir	forwarding an estimate for the repairs of the Iyempully Rajah Vaikal a Channel leading water to several tanks in the Dt of Dindigul.
13-6-44	387	Do	Reporting certain circumstances relative to a channel excavated by Mr. Blackburne at his own expense with the view of impeding the spontaneous formation of salt.

List of Retainable papers for 1844/44

Received Letters. P. Works Madura Collector's Office.

Date.	Number.	From whom received	Substance.
"	"	"	Rules + observations for works of irrigation being put in a fit state to receive water from the approaching rains + freshes
-6-44	"	Civil Engineer 8th Dn.	Forwarding plans + estimates the latter amounting to Rs 7168.9, for constructing an anicut across the Goondaur river in the Panpancolam Tq. of Ramnad &c
-7-44	"	Do	Correspondence relating to the erection of certain bridges on road no 13 between Cottampully + Connorypully.
-7-44	"	Do	Stating that he does not observe in the true translation of the Superintendent's urgee to the Sub-Collr. of 21st June 1844, any mention made of an "extraordinary estimate for filling in the road way of the Cadwarloor bridge"

List of Retainable papers for 1843-44 P Works

Received Letters. Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
8-7-44	11	Asst Surveyor 8th Dn	Stating that he is revising the estimate prepared for the portion of road No 23 from the boundary of his collectorate to Usilampatty & that he is at present unable to prepare a plan & estimate for the whole line, up to Nellacottah as requested
5-8-44	11	Civil Engineer 8th Dn	Forwarding copy of a letter addressed by him to the Secy to the Bd of Rev & P.W. recommending early sanction to an estimate of Rs 180-12-a for a pavement to the bridge across the Mungle Oday on road No 18
29-8-44	11	Do	Stating that he considers that the expense of cutting a channel for the passage of the jungle stream South of the Covavanur, in the limits of Shenpatty, on road No 17, should be borne by the party or parties to whose care the building of the bridge in question was entrusted

List of Retainable papers for 1843-44

Received Letters. P. Works. **Madura Collector's Office.**

9

Date.	Number.	From whom received.	Substance.
20-9-44.	11	Civil Engineer 8th Dn	forwarding a revised estimate of Rs 149-10-3 for repairing the pavement of a bridge across the Coovanoor in Chinnapulty limits on road No 2 in the Dt of Dindigul & requesting to give directions for the repairs being carried into effect with as little delay as possible
10-44.	594.	Secy to the Bd of Rev. D Rin.	stating that there appears no reason for delaying the present work (channel) ~~since~~, in the minutes of Consultation No 40, the Govt has given authority to Collrs to execute without their receiving previous sanction, such works as are necessary. Sanction being obtained, after the work is done, for the expenditure within one month of the period in which it was incurred
0-10-44.	11.	Civil Engineer 8th Dn	furnishing him with copies of estimates for a bridge on road No ~~1 for a~~ Sungar on the Amravati river on road No 2, sanctioned by Govt on the 20th Sept.

List of Retainable papers for 1843-44

P. Works

Received Letters. Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
28-10-44	"	Civil Engineer 8th Dn.	Stating that he has directed 4 stone buttresses to be built at the end of the long room in Tirumal Naik's palace at Madura, in a line with the columns supporting the arched roof & to close up the spaces between the ~~masonry~~ arches with a masonry wall.
2-11-44	"	Do	Submitting for his consideration whether it would not be advisable to remove from the occasional list of works for 1845 the items for raising the bund of & building a sluice in the Poolingoonden tank in the Tirumangalam tq.
Do	"	Do	Informing that he has examined the proposed site of a bridge at Pommunpatty on road No 4 in the Tirumangalam tq, & is of opinion that a bridge is not required there.

List of Retainable papers for 1843-44

Received Letters. P. Works Madura Collector's Office.

Date.	Number.	From whom received.	Substance.
″ ~~11-44~~	″	″	Extract of a letter from the Secy to the Bd of Rev D.P.W to the Secy to Govt under date the 14th Oct 1844 No 618, forwarding 2 bills of expenses incurred in the construction of bridges & the repair & improvement of roads in the Dt of Madura during the year 1842.
22-11-44.	″	Civil Engineer 8th Dn	Stating that he has examined the portion of road No 4 between Madura & Cacharryenputty, as also the lands on either side & furnishing him with a detailed estimate for its repair & improvement amounting to Rs 5517-7-6

13

Madura District
Tirumungalum Talook
5th January 1843

From
Lieutenant W. H. Horsley
Civil Engineer 8th Division

To
G. D. Drury Esqre.
Commissioner
in charge of Madura

Sir

With reference to the remarks contained in my Diary of 17th December 1842 I have now the honor to furnish you with a set of Rules to be observed in preparing estimates for the repair of tanks, drawn up in English and Tamil, and request, should they meet with your approval, that you will be so good as to give effect to them by circulating Copies to every Tassildar and directing that in future no tank estimate be prepared otherwise than in accordance therewith.

I have the honor to be
Sir
Your Most Obedient Servant
W. H. Horsley Lieut
Civil Engineer 8th Divn

To
G. D. Drury Esqre.
Commissioner
in charge of Madura

From
The Civil Engineer
8th Division

To
The Commissioner
in charge of
Madura

Dated 5th January 1843
Recd 9th January 1843
No.
Enclosures 2

Forwarding Rules
for preparing Tank
estimates and request-
-ing that Copies may
be Circulated to all
Tassildars for their
guidance.

Rules to be observed in preparing Estimates for the repair of Tanks.

1st. Tanks should be divided into three classes as follows Viz

1st Class all large tanks, whose breadth of water spread exceeds 300 yards and depth 3 yards and upwards.

2nd Class. Middling size tanks, breadth of water spread under 300 and above 100 yards, depth of water from 1½ to 3 yards.

3rd Class. Small tanks, water spread under 100 yards and depth from 1 to 1½ yard.

2nd In preparing an Estimate for Tank repairs, the first thing to be determined is, to which of the above three classes the Tank in question properly belongs, because, according to its class will be the height and breadth of bund required.

3rd In all 1st Class Tanks the top of the bund should be two yards at least above the highest water mark and two yards breadth at top, with a slope of 1½ for one.

In 2nd Class Tanks, 1½ yard above highest water mark and 1½ yard

breadth

breadth at top, slope the same as above.

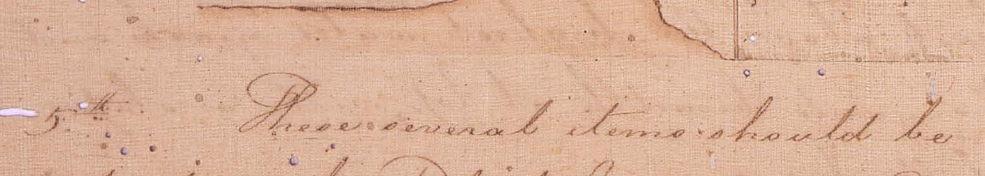
In 3rd Class Tanks one yard above highest water mark and one yard breadth at top, slope the same as above.

4th Having determined the class to which the tank to be estimated belongs, according to Rule No 1., the Tassildar, or such person of his Establishment as he considers competent and whom he may depute for the purpose, will commence his measurements from either end of the bund (taking care however to mention which end in his Estimate) and note down the length of such parts as require repair, as well as those which are in good order, in regular succession and while doing so, to observe.

1st The average height of each tank above highest water mark.

2nd The breadth of the bund on top.

3rd The height of the same above the paddy fields or ground in rear thus.



5th These several items should be entered in the Talook Maistry's or Goomastah's field book under separate

Columns

Columns agreeably to the subjoined form.

Breadth of water piping and depth	Length of each Pak	Height of present bund above highest water mark at each Pak	Breadth of bund on top at each Pak	Height above paddy field or ground in rear at each Pak	Remarks
1	2	3	4	5	
	100	3/4	1	2	Bank low and weak
2nd or	150	1	3/4	2½	
2nd	200	1¼	1	2¼	
Class	100	1½	1	2	Bank sufficiently high width not enough
Tank	50	1½	1½	2	no repairs required.

6th. To form an Estimate from the above observations, the following Tables are necessary.

Table No. 1 For large tanks for example more than 300 yds broad & 3 yds deep				Table No. 2 For Tanks of middling size for example not more than 300 yds broad or 3 yds deep				Table No. 3 For Chan^l & small Tanks for example not more than 100 yds broad or 1 yard deep			
Actual hight of Bank	To be raised	Average breadth	Thickness of new bank at bottom	Actual hight of Bank	To be raised	Average breadth	Thickness of new bank at bottom	Actual hight of Bank	To be raised	Average breadth	Thickness of new bank
3	6	7	4	3	6	7	4	3	6	7	4
2	"	"	2	1½	"	"	1½	1	"	"	1
1¾	¼	2⅜	2¾	1¼	¼	1⅛	2¼	3/4	¼	1⅜	1¾
1½	½	2¾	3½	1	½	2¼	3	½	½	1¾	2½
1¼	3/4	3⅛	4¼	3/4	3/4	2⅜	3¾	¼	3/4	2⅛	3¼
1	1	3½	5	½	1	3	4½	"	1	2½	4
3/4	1¼	3⅞	5¾	¼	1¼	3⅜	5¼				
½	1½	4¼	6½		1½	3¾	6				
¼	1¾	4⅝	7¼								
"	2	5	8								
"	2½	5⅜	8¾								
"	3	5¾	9½								
"	3½	6⅛	10¼								
"	4	6½	11								

Note - if the Tank be 1st Class, No. 1 Table is to be used in preparing the Estimate - If 2nd Class, No. 2 Table - if 3rd Class, No. 3 Table.

7th. The method of using these Tables is as follows.

1st. To find the additional height required - Look in Column No. 3 of the Table, answering to the Class of Tank to be estimated, for the number in Column 3 of the observations, and in the Columns headed 6 and 7 of the Table will be found, on a line with that number, two other numbers, which if multiplied together and again by the number in Column 2 of the observations will give the Cubic yard of raising required.

2nd. To find the additional width to be given to the bund ere it can be raised to the required height. Subtract the number in Column 4 of the observation from the number in Column 4 of the Table (on the same line with the foregoing) and the remainder will be the average breadth, which, multiplied by the numbers in Columns 2 and 5 of the observations, will give the Cubic yards of widening Required.

3rd

3rd Add together these two products, Viz, raising and widening and their sum will be the total Cubic yards in each Take and, again, the sum of all the takes will be the grand total of Estimate.

Example of Estimate prepared from the foregoing observations.

Class of Tanks	Raising				Widening				Total of raising & widening
	2	6	7	Total	2	4	5	Total	
	100	3/4	2 7/8	196 7/8	100	2 3/4	2	550	746 7/8
	150	1/2	2 1/4	168 3/4	150	2 1/4	2 1/2	843 3/4	1012 1/2
2nd Class	200	1/4	1 7/8	93 3/4	200	1 1/4	2 1/4	562 1/2	656 1/4
	100	"	"		100	1/2	2	100	100
	50	"	"	"	50	"	"	"	
									2515 5/8 at 6 pice per Yd Rs. 78-9-9
	Add for ramming &c at 9 per cent								Rs. 6-14-10
									Total Rupees 85-8-7

Note. The rules giving the numbers to fill up the Columns in the Estimate will give 0 for those parts of the bank that requires no repairs. See the 4th and 5th takes in the example.

8th Pits must be either half a yard, one yard or one and a half yard or two yards deep. They must not be 3/16, 1/16, 9/16 for this only leads to difficulty and error in the accounts.

9th Sections of 1st 2nd and 3rd Class tank banks, repaired agreeably to the above rules, are here given:

1st Class.

2nd Class.

3rd Class.

3rd January 1843.

W. H. Horsley Lieut.
Civil Engineer
8th Division

21

Read the following letter

No. 15.

From

Offg Secretary to the Govt of India

To

W. Elliot Esqre

Acting Secretary to the Government
of Fort St George

Dated Fort William, the 27th January 1843.

Sir,

Rev Deptt

I am directed to acknowledge the receipt of your Letter No. 11 dated the 9th Instant with its Enclosures, and in reply to convey the sanction of the Honble the President in Council for alienating waste land of the Annual value of Rs. 60. for the support of a Choultry constructed for the accommodation of Native Travellers by a Native at Coothumpomdy in the Madura District.

2. The Original Enclosures of your letter are returned herewith.

I have the honor &ca

(Signed) Fred: Jas. Halliday

Offg Secy to the Govt of India

&c

No. 229

Ordered that the sanction conveyed in the foregoing letter be communicated to the Board of Revenue, with reference to the recommendation submitted by them in the Department of Public Works under date the 19th of December 1842.

Fort St. George
28th February 1843.

(Signed) J. F. Thomas
Actg. Chief Secy

To the Bd. of Rev. D.P.W.

No. 40

Resolved that copy of the foregoing be communicated to the Commissioner in charge of the Madura District, with reference to his predecessor's letter of the 28th November last.

Madras
6th March 1843
Despd. 11th Do.

[signature]
Secy Bd. of Rev. D.P.W.

To
The Commissioner
in charge of Madura

Tinnevelly District
Streevellipootoor Talook
Cushbah 23
30th January 1843.

From Rd. 3. February 1843.

Lieutenant W. H. Horsley
Civil Engineer 8th Division

To

G. D. Drury Esquire
Commissioner in charge
of Madura

Sir

I have the honor to forward for your information Copy of a letter from the Board of Revenue in reply to mine of the 22nd November last requesting sanction for Rupees 2453.12.0 expended in excess of estimate for repairs to Road No. 4 and in the construction of the Sheviracottay Bridge in the Teroomungalum Talook, as also for a further sum of Rupees 1743.14.4 still required to complete the gravelling of the same road and to request that you will be so good as to furnish me with an Account particulars of the expenditure on the total amount of Rupees 14,155.3.0 sanctioned from Pagoda Funds for the

repair

× No. 31 Dated 23rd January 1843

Answd. 28 Apl.

repair of various roads in the Madura District under date 15th February 1841.

Should the expenditure have exceeded the above amount, the Board, you will observe, desire "that the works may immediately cease, the accounts be brought to a close as soon as possible and a clear Statement prepared which may afford every information that can tend to render satisfactory to Government the explanation that will then be necessary."

The Statement above referred to should exhibit the particular lines of road on which the Pagoda Funds have been expended, the nature and extent of the works executed, particularising the quantity of earth and gravel work and the rates allowed for each as also the number and size of bridges and road tunnels constructed on these lines with their cost and whether any portion of the total expenditure has been incurred for repairing damages caused by the Monsoon rains since the first completion of the work.

I have

I have the honor to be
Sir
Your most Obedient Servant
W. H. Horsley Lieut
Civil Engineer 8th Division

To
G. D. Drury Esqre
Commissioner
in Charge of Madura

Departt. Public Works

From
The Civil Engineer
8th Division

To The Commissioner
in charge of
Madura

Dated 30th
Recd } January 1843

Enclosure 1

Forwarding Copy of a letter from the Board of Revenue and requesting to be furnished with an Account particulars of expenditure upon Rupees 14,155-3-6 sanctioned from Pagoda Funds under date 15th February 1841 for the repairs of various roads in the Madura District

To

Lieutenant W. H. Horsley
Civil Engineer 8th Division

Sir,

I beg leave to inform you that I have during this Month twice heard from the Mistry Superintending the construction of the drains in Madura, informing me that the East Avanee Moola street will be soon completed and wished me to set down the levels for another line. I beg to be informed if I am to attend to his request and give my assistance. The reason for my writing for your permission, is owing to the following circumstance. When at Madura on the 9th Instant, I was called up by Mr. Blackburne and asked the reason of the delay in the works connected with the improvement of the Town, and was desired to hurry it on. I visited the works on the following day and found it almost at a stand with exception of the street drains. I was about given directions for commencing operations on the South and western sides of the Fort and for filling up the portion for the Market

Market &c. when I was informed by the Deputy Superintendent and the Deloyet. that they were ordered by you not to attend to any instructions from me, as I had no business with the Fort works so long as C. D. Drury Coope was in the District. on hearing this I was prevented doing any thing, and therefore wish to receive your directions regarding these works.

I Remain
Sir

Your most Obedient and
humble Servant
(Signed) G. W. Marrett
Assistt. Surveyor 8th Divn

Manamadura
21st February 1843

To
Assistant Rev Surveyor Marrett
8th Division

In reply to your letter of 21st February 1843, I beg to inform you that you have my full permission to render every assistance in your power towards carrying out the contemplated improvements in the town of Madura

but

but only in communication with and on the requisition of the principal Autho-
-rity in charge of the District.

You have no business, I conceive, with the executive, properly so called, your duty being simply to direct the Maramut Servants in the performance of the work entrusted to them by the above authority and to overlook the accounts of expenditure.

Further, I beg to state that, under present circumstances, you did wrong in proceeding to act upon Mr Blackburne's suggestion without first communicating with the Commissioner in charge; had you done so, you would have been informed of the latter gentleman's wishes and the Deputy Superintendent in all probability directed to attend to your instructions in giving effect to the same.

Should the Deputy Superintendent require your assistance, he should report the same to his own immediate Superior (the Principal Collector or Commissioner for the time being) and not take upon himself to call you from your duties in the District. A Copy of this correspondence will be forwarded to the Commissioner in charge with a request

that

that he will send you instructions
how to proceed with the improvements
in the town of Madura.

Yours Obediently
(Signed) W. H. Horsley Lieut
Civil Engineer 8th Divn

Bramadasam Talook
Cuddyem 25th February 1843

(True Copies)

W. H. Horsley Lieut
Civil Engineer 8th Divn

31

To

W. Moorhead Esqr.

A. Principal Collector
Madura.

Sir,

I beg to acknowledge the receipt of your Tamil Yadhast of the 14 Inst. calling for the numbers, dimensions and prices of purchased grounds belonging to the ditch &c. of the Madura Fort, & not included in the Auction sale list in the Talook Cutchery; and requesting to know by whose authority I gave away such grounds; in reply I beg to state, that on the Commencement of the work in question the

grounds

grounds (each 40 x 60 feet) were disposed of by public auction from 6 to 15 Rups. each. At the 2d Sale, or when the Bramin line was given away, an average price at 11 Rups. per ground was fixed, and according to a list prepared by the Bramins, each individuals portion was marked out to him. by this time the best and most convenient sites being all taken up, there was some difficulty in obtaining purchasers, consequently the 11 Rups. was made the standard price per ground, & the Superintendent ~~and~~ Deloyets in charge were directed to mark out grounds, whenever any individual offered himself as

as a purchaser — and to persuade
him to Commence preparing
his portion, at the same
time keeping him informed
that he would be Called upon
in time to pay the Circar
demand of 11 Rups per ground
this was done by the authority
of Mr Blackburn, and appears
to be Continued up to this
time — as my interference
in the work was prevented
since October last, very few
such grounds were marked
out by me, and as I kept
no memo: of it, I cannot
now remember these places —
but as the Delupsts &c were
employed on the work up
to the present time, they are
able to point out all
grounds so disposed of.

And

had the A. G. Subsilder Ann=
tharon called upon the
Deloyals to furnish him with
a list, he could have obtained
it at a few hours notice.

Some of the grounds have
also been given away without
any price being fixed on them,
these were in return to loss
sustained by persons who were
removed from the Town, during
the widening of the streets &
this was also done by Mr. Black=
burnes orders - such ground can
also be pointed out by the
Deloyals.

I beg to remain
Sir
Yr. most Obed.t
Humble Servt.
Geo. Wm. Marrett
Asst. Surveyor &c.

Madras
20. June 1823

Department of Public Works
Recd 5th Decr /43

33

No. 539

To

The Secretary to Government
Public Department

Sir

1 I am directed by the Board of Revenue, to forward for the purpose of being submitted to the Most Noble the Governor in Council, a letter from the Principal Collector of Madura, covering copy of a form of grant or deed of sale which he proposes to issue to such persons as have taken up ground in the rampart and ditch of Madura Fort, the partial demolition of which was sanctioned by Government on the 23d October 1837, and the disposal of the glacis on the 25th April 1842. —

dated 31st August 1843.

No. 526.

2 These measures were approved by Government, in order to afford relief from the pressure of excessive numbers inhabiting the Fort, and it is hoped will

much

much improve the cleanliness and salubrity of the place.

3. Mr Blackburne states that "many persons are going on rapidly in fulfilment of their engagements to level the wall and fill in the ditch, and that not a few have already commenced building their houses, twenty eight of which are nearly completed". He proposes to submit at the close of the year, a detailed report of his proceedings for the approval of the Board and Government.

4. The form of grant appears to the Board unexceptionable, and should it be approved likewise by the Government, the Principal Collector will be directed to issue it, accompanied by a sketch survey defining the limits of the ground, and to keep a register of both grants and sketches in his Office.

5. With the sanction of Government, the Board will have 1000 Copies lithographed, and submit whatever

trifling

trifling expense may be incurred for special sanction. 37

Read as } I have the honor to be &c
[illegible] October 1843 } (Sig.d) J. H. Bell
Actg Supt [illegible]

Extract from the Minutes of Consultation under date the 23d November 1843 No. 57.

The Most Noble the Governor in Council desires the Board of Public Works will instruct the Civil Engineer of the Division to state his opinion as to the progress of the work alluded to in the foregoing letter, and the probable time it will take to accomplish it, whether the material of the Fort is sufficient to fill up the Ditch, and if filled, what will be the extent of the improvement and utility of the undertaking. His Lordship in Council desires that a drawing of the Fort and Esplanade may also accompany the report.

(Signed) G. A. Drury
Chief Secretary

To
The President & Members of the
Board of Revenue in the
Department of Pub. Works

Ordered

No. 252

Ordered that copy of the Boards letter to Government 30th October last, be forwarded to the Principal Collector of Madura, and that copy of the foregoing Minutes of Consultation be communicated to the same Officer, and to the Civil Engineer Eighth Division, and that the latter Officer be requested to proceed to Madura and furnish a report in conformity with the instructions of His Lordship in Council, at his earliest convenience.

Madras,
30th November 1843.
Despd 1st Decr. D.
Recd 5th J.B.

J. A. Bell
Actg Secy Bd of Revenue

To
The Principal Collector
of Madura

Dindigul District
Nellacottah Talook
Buddalacoondoo
25th January 1844
No. 27 J.B.

From
Lieutenant W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqre.
Principal Collector
of Madura.

Sir,

I have the honor to acknowledge

January 1844. the receipt of your letter No. 39 recommending certain works for my consideration.

With respect to the first mentioned viz "Road No. 17, portion from Nellacottah to Pulkanooth," I regret I have not been furnished with a Copy of the proposed estimate for its repair about to be submitted for sanction, as I can learn nothing about it from the Nellacottah Talook Authorities. This line of road, however, has twice been

from 21st to 23rd October 1841 and 16th and 23rd Nov. 1842. reported on by me, (viz in October 1841 and November 1842, vide Diary) and estimates for its repair and the construction of various Bridges prepared by this Department. I shall, however, again ex:

:amine

examine the road in question on my route to Pulney and give you my opinion as to its present state.

The 2nd work mentioned, is a new line of road between Chuttraputty and Cumnacumputty. This, also, I shall be glad to visit and give my opinion upon, provided I can find any one acquainted with the proposed line to point it out to me, and I shall be obliged if you will furnish me with a Copy of the estimate for the same.

An estimate for a Bridge over the Shunmooganuddee, west of Pylney on Road No. 2, shall be prepared in this Office as soon as possible and submitted for your consideration.

With regard to the 4th and last item, I beg to inform you that a Plan and estimate for a Bridge, as also, for a Jungar, or ferry, on the Amraottee River, west of Voyloor on the same road, were submitted to the Board of Revenue on the 26th July 1843, along with the Return of ferries in the Districts of Madura and Dindigul. The estimate for a Bridge amounts to Rupees 18,099-8-4 and that for a jungar, formed of 2 Canoes

with

39

with a platform and railing above, to Rupees 265-2-10. Copies of these estimates will be furnished to you if required.

I have the honor to be
Sir
Your Most Obedient Servant
A. H. Horsley Lieut
Civil Engineer 8th Division

Dindigul District
Nellacottah Talook
Buddalaxoondoo
25th January 1844

To
J. Blackburne Esqre
Principal Collector
of Madura

1844 Departt.

From
The Civil Engineer
8th Division
To
The Principal Collector
of Madura.

Dated 25th
Recd 27 } January 1844.

Enclosure None.

No.

In reply to the Principal Collector's letter of 23rd January 1844 requesting his attention to certain works en route to Pulney.

41

Dindigul District
Iyempully Talook
Balasamoodrum 1st February 1846.
Recd 3 Feb

From
Lieutenant W. H. Horsley
Civil Engineer 8th Divn

To
J. Blackburne Esqr
Principal Collector
of Madura

Sir

I have the honor to furnish you with a detailed Occasional Estimate for the repair of a portion of Road No. 17 between Nellacotta and Palkanoth newly prepared by me, and which I request may be substituted for that framed by the Superintendent, with the details of which, however, I am unacquainted.

Rs. 3106. 7. -

A stone Platform Bridge is much wanted in the town of Nellacottah, after which, and as far as M. F. Y. 9 - 2 - 192, the road is in sufficiently good order, the soil being naturally favorable. This I had an opportu:
:nity

opportunity of observing on a former occasion and therefore did not think it worth while to go over the ground again. In the limits of Chempitty the road passes through paddy fields and is under water. Here I have allowed for raising and gravelling and construct:ing a two arch Bridge over the sur:plus channel which intersects the road at this point. Beyond this as you approach the Codavenaur Bridge, the road way requires widening and raising in parts and the same for a short distance on the North approach. Trifling repairs only are necessary in the limits of Pau:rapitty and Cunnecrady. Where the road passes over the Llotoopitty tank bund, I have allowed for levelling and gravelling; widening also for a short distance near the surplus Sluice is requisite. Bridges are required over a jungle stream in the limits of Phettoopitty and across the Phettoopitty supplying channel, in lieu of those destroyed or injured by the freshes of 1841.

The worst part of this line is

in

included between the 20th and $21\frac{3}{4}$ Miles from Nellacotta, where the black cotton soil occurs, here cutting side trenches, raising 9 inches and gravelling has been allowed for. By gravel is meant the red quartzose gravel to be met with in the immediate neighbourhood and which can be dug up and carted to the spot for 2 Annas per Cubic yard on an average. I would not recommend this part of the road to be raised with soil from the side trenches more than 9 inches above the general level of the Country, this with 9 inches of gravel will bring the surface sufficiently high for all purposes of drainage, which is all that is necessary in such situations. I would have preferred covering this portion of the road with broken stone, but considering the class of road and the additional expense that this would entail, I have substituted red gravel as the next best covering.

I have

I have the honor to be

Dindigul District — Sir

Tyempully Tk — Your most Obedient Servant

Balasamudrum — W. H. Horsley. Lieut

1st February 1844. — Civil Engineer 8th Dn

Recd. 3d. Fy.

J. Blackburne Esqre

Principal Collector

of Madura.

1844 Depart[illegible]

From

The Civil Engineer

8th Division

To

The Principal Collector

of Madura.

Dated 1st

Recd 3d February 1844

Enclosed

No.

Forwarding an Estimate of Rs [illegible] for repairs to the Tank No. 17 with detailed information regarding its provisions

Dindigul District
4th Iyempully Talook
Valasaimoodrum
1st February 1844.

From
Lieutenant W. H. Horsley Recd 4th Fy
Civil Engineer 8th Division

To
J. Blackburne Esqre
Principal Collector of
Madura

Sir,

On the 19th Ultimo, I had the honor of addressing you on the Subject of the improvements under progress in the Town of Madura and requested such information as I deemed necessary to put me in full possession of your views and plans; and without which information I was unwilling to hazard an opinion in some of the points specified in the Minute of Consultation No. 57 under date the 23rd November 1843.

I am sorry to observe, however, by a letter No. 39 which I have just received from the Secretary to the Board of Revenue in the Department of Public Works — 5th Jany 1844. — that my object in thus writing to you has been misunderstood. Some communication with you either written or verbal

verbal on the subject of these improvements appeared to me to be not only desirable but imperative, and that were I to have left Madura without such and framed my Report simply upon what I saw of the work, I might have written erroneously of your plans and thus have laid myself open to the displeasure of Government, besides giving you the trouble of correcting my errors.

On a reconsideration of the subject, I really cannot see wherein I have exceeded the instructions conveyed in the above Minute of Consultation except it be, in the matter of receipts and disbursements connected with the works in progress in the Town and Fort of Madura. This certainly is not one of the items particularly specified, but it is one that is generally understood to be included in all Reports on Public works in which the funds of Government are employed and therefore it was included in the list of Queries put to you in the letter above referred to.

The Government requires 1st "my opinion as to the progress of the work"

To

To give my opinion fully and with some degree of correctness, I must know not only what is done but what is in contemplation, hence the several que: ries in the 1st Para of my letter.

2ndly The Government requires to know "the probable time it will take to ac: complish the work."

In the 2d Para of the same letter, I remarked that several street drains, constructed 2 or 3 years ago, were being taken up again with the view of increasing the breadth of the roadway and requested to be furnished with a Copy of the Rules regulating the breadth of the various streets, for otherwise, I could not form a correct opinion, either as to the pro: gress made or the time required to com: plete these alterations and, I may also add, as to "the extent of the improvement and utility of the undertaking" in its widest sense, which forms the 4th and last item of information required by Government.

The question immediately preceding viz, "whether the material of the Fort is sufficient to fill up the ditch" is one that I could answer myself by simple inspection and measurement

and

and therefore I said nothing about it.

My letter concluded with a request to know whether or not the Rules laid down in Mr Marrett's Diary of February 1842 were still in force, with respect to the new lines of Streets &ca outside the Fort walls, or in the event of any change having taken place in your views and intentions, that you would inform me of the same, that I might not be in error on this point.

The several questions above referred to appear to me to embrace only such particulars as are requisite to enable me to form a correct judgment on the points submitted for my consideration and Report and I shall therefore be glad if you will furnish me with answers to them at your earliest convenience.

I have the honor to be
Sir
Your most Obdt Servt
W. H. Horsley Lieut
Civil Engineer 8th Dn

Dindigul District
Lyempully Talook
Valasamudrum
1st February 1845
J. Rio[illegible] 4 M

To J. Blackburne Esqr
Principal Collector of
Madura

49

Rev. Department
1844

From
The Civil Engineer
8th Divn

To
The Principal Collector
of Madura

Dated 1st February 1844
Recd 4th

Enclosures None
No

Referring to a former letter on the subject of the improvements in the Town of Madura and requesting answers to certain questions therein put to assist him in preparing his Report to Government

51

Dindigul
8th February 1844
Recd 10th Feb

From
Lieutenant W. H. Horsley
Civil Engineer 8th Dn

To
J. Blackburne Esqre
Principal Collector
of Madura

Sir,

8th February 1844. In compliance with the request conveyed your letter No. 58, I have the honor to furnish you with Copies of estimates for a Jungar and Bridge over the Amravuttee River at Voyloor on Road No. 2, forwarded to the Board on the 26th July 1843 with the Return of ferries in the Districts of Madura and Dindigul, the latter document having been furnished from your Office by the Sub Collector in charge, in conformity with Circular

June 1843. No. 280 from the Board of Revenue in the Department of Public Works.

From the accompanying Copy of my letter to the Board on that

occasion

occasion, you will observe that I sim:
ply forwarded for their information
the plans and estimates for Jungar
and Bridge prepared in this Office
without recommending either for sanc:
:tion, and that, therefore, the remarks
contained in the 1st Para of your letter
No. 60 do not apply in this case, nor
in any other that I am aware of, in:
:asmuch as, I have never taken upon
myself to recommend any work to
the Board for sanction without previous commu:
:nication with the proper Authority.

I have the honor to be
Sir
Your Most Obedient Servant

Dindigul
8th February 1841 } W. H. Horsley Lieut.
Civil Engineer & Dn.

Recd 10th JB

To

J. Blackburne Esqre
Principal Collector
of Madura.

51.A

1844 Departt.

From
The Civil Engineer
8th Division
To
The Principal Collector
of Madura
Dated 8th February 1844
Recd 10
Enclosures 3
No.

Furnishing Copies of estimates for a jungar and Bridge over the Amravathee River at Voyloor on Road No. 2 and stating that he is not aware of having recommended any work for sanction without previous communication with the proper Authorities.

"Occasional"

Estimate of the Expense required for Constructing a Bridge 9 arches over the Ambroathee river on the high road from Dindigul, through Pulney and Oodomul Cottah, to Coimbatore and Palghat

Talook	Village	Particulars of Works	Measurements: Length	Breadth	Height	Description & Contents of work: Earth	Loose stone	Brickwork	Cut stone work	Price per Cubic yard: Rs	as	Pie	Amount of each: Article	Iron	Total	Remarks
Syempoody [?]	Vaylooree [?]	Foundation to 8 Piers	152	11-2	9	„	„	15276								
		Foundation to 2 abutments	38	15--	9	„	„	5130								
		Foundation to Points of piers	176	4-4	9	„	„	6864								
		D° to d° of Abutments	42	11--	9	„	„	4158								
		Piers above	152	6-8	5	„	„	5066⅔								
		abutments above	38	10--	5	„	„	1900								
		Points of piers up to the Parapet	30	2-3	15-9	„	„	1275¾								
		d° d° at the Abutments	29	8--	15-9	„	„	3654								
		Below arches	52	15--	1	„	„	780								
		Spandril between piers	288	3--	4	„	„	3456								
		d° at abutments	36	3--	4	„	„	432								
		Wingwalls including foundation	112	4-6	19-9	„	„	9954								
		[illegible]	86	4-[illegible]	[illegible]	[illegible]	[illegible]	[illegible]								
		[illegible]	[illegible]	[illegible]	[illegible]	„	„	770								
		d° d°	24	4-9	14-	„	„	1596								
		Blocking course	1086	3--	¾	„	„	2443½								
		Parapet Walls	1086	1½-	4¼	„	„	6923¼								
								77947								
		Brick in Chunam or C yards						2886 15/16	„	2	8	„	7217 5 6			
		Turning Principal arches	150	19	2-9	„	„	23512½								
		Spandril arches	94	15	1	„	„	1410								
								24922½								
		Brick in Chunam Cub: yards						923[illegible]	„	3	8	„	3230 11 6			
		Cornice work Sq^r feet	„	„	„	„	„	1152		2	„	„	28 „ „			
		Excavating foundation C yards	„	„	„	2500	„	„	„	„	1	„	156 4 „			
		Embankment Cubic yards	„	„	„	6480	„	„	„	„	„	9	303 12 „			
		3 Centrings each	„	„	„	„	„	„	„	962	13	3	2888 7 9			
		Cost of 6 Centring Pillars								188	„	3	1128 1 6			
		Plastering Sq^r f^t	„	„	„	25500	„	„	„	2	„	„	570 „ „	15957 10 3		
		Sundries at 5 per cent												797 14 1	16755 8 4	
		Superintendence Maistry for two years at								42	„	„		1008 „ „		
		1 accountant for d° d° @								14	„	„		336 „ „	1344 „ „	
		Total Est^d Company's Rupees													18099 8 4	

Rec^d 10th Feby 1844 JB

(Signed) W H Horsley Lieut^t
Civil Engineer 8th Div^n

A true Copy
W. H. Horsley Lieut^t
Civil Engineer 8th Div^n

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Estimate of the Expense of a Jungar, formed of two Canoes with plat form and railing above to be used on the Ambroathee river near Veyloore on the high road from Dindigul thro Pulney & Ordoomul Cottah to Palghat &c.

Measurements Length	Breadth	Height	Cubic feet	Particulars of work	Rate	Per	Amount	Total
				The cost of two Canoes each 28 feet long 4 feet broad & 2 ft. height @	75 " "	each	150 " "	
				Plat form above two Canoes—				
130	12	2	21 - 8	13 Planks				
39	5	3	4 - 3/4	3 Stretchers under do				
40	5	3	4 - 2	4 Cross binders under do				
29	5	3	3 - 1/2	2 end binders				
36	4	3	3	6 Supports to the rails				
26	4	4	2 - 10 3/4	8 Rail Posts				
52	2	2	1 - 5 1/2	4 Cross frames of rails—				
C. feet			42 - 11 1/2	wood work at	1 " "	C. ft.	42 15 4	
				Nails &c.	— —	—	2 4 "	
				Two Steps				
72	12	3	18 - "	8 Planks				
30	2	2	1 - "	4 frames under step plank				
12	1 1/2	1 1/2	0 - 2 1/4	4 do above do				
Cub. feet			19 - 2 1/4	wood work @	1 " "	Do	19 3 "	
				4 Iron Hooks, staples & nails	" " "	—	5 " "	
				40 Carpenters @	" 4 "	each	10 " "	
				5 Blacksmiths @	" 4 "	Do	1 4 "	230 10 4
				Sundries @ 5 per cent	— — —	—	— — —	11 8 6
								242 2 10
				Hire for 4 Bandies for carrying the above Jungar from Palghat to Veyloore being 80 miles at 1 Rupee per 10 Miles per bandy				20 " "
				Total Estimate Rups.				268 2 10

/ Signed / W. H. Horsley Lieut.
Civil Engineer 8th Divn.

Recd 10th Feby 1844 JW

(A true Copy)
W. H. Horsley Lieut.
Civil Engineer 8th Do.

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To,

The Secretary to the Board of Revenue
Department of Public Works -
Fort Saint George -

Sir,

I have the honor to transmit herewith a List of Ferries in the Districts of Madura and Dindigul as required by your Circular No 281+ It will be observed that the only Ferry mentioned is one on the Amroathee River near Vyloor on the road from Dindigul to Palghat via Pulney (not by Dharapoorum as stated in No 2 Colum) which however belongs more properly to Coimbatoor - The Principal Collector of Madura, Mr Blackburne, in a letter to my address dated 30th September 1842 - states "there is not a ferry in the Collectorate, but it would be very advantageous to establish them in the absence of bridges over the Amroathee between Dharapoorum and Coothompoondy on Road No 1. over the same River between Oodamul-cotay and Vyloor and over the Shunmooganuddee between the latter place and Pulney both in Road No 2." Sections of the two latter rivers, and also of the Vygay at Madura, are herewith forwarded -

+ dated 12th June 1843 -

I also beg leave to transmit Plan and Estimate+ for a Jungar, formed of 2 Canoes with platform and railing above, capable of transporting 30 persons or one cart and a pair of Bullocks at one trip, navigated by four persons, and suitable for the rivers referred to by the Principal Collector -

+ Rupees 268-2-10

The Canoes Canbe procured in the rough state
at Palghat and transported on bullock bun=
dies to their Several destinations- The Estimate
now sent has especial reference to the Amroattee
near Vytoor on Road No 2-

A. Plan and Estimate for a Bridge
over the same river, prepared in this Office,
is likewise forwarded for the information
of the Board. It consists of 9 semiellip=
tical arches of 40 feet span, and 9 feet ver=
sed sine, supported on 8 Piers and 2 abut=
ments, the former 6⅔ feet and the latter 10 feet
in breadth at the springing course. the total
length between the Abutments 413⅓ feet and
breadth of road way 15 feet- The Estimated
cost is Rupees 18099 - 8 - 4 - A rough Estimate
has been formed for a Bridge acroſs the
Shunmoogamuddee near Pulney on the same
road as above Amounting to Rupˢ 16,000 -
Sections of other rivers and streams in the
Madura Collectorate not yet bridged will
be forwarded as soon as practicable -

I have the honor to be
Sir,
Your most Obedᵗ Servant
(Signed) W. H. Horsley Ltᵗ
Civil Engineer 8ᵗʰ Dⁿ

Tinnevelly District
Shairmadavee
26ᵗʰ July 1843 -
Recd 16 Feby W 44

(A true Copy -)

J. H. Horsley Lieutᵗ
Civil Engineer 8ᵗʰ Divⁿ

Recd 11 Feby 9

Ordinary Estimates revised by the Civil Engineer in the 8th Division for the Year 1844 63

Syempully Talook

Viaporry Column

Limits of Paluey

Supplied by a Channel from an Anicut across the Veratarur River

Estimate for Revetment Wall.

184 × 3/4 × 2 = 276 Revetment with new stones
124 not wanted
84 × 3/4 × 1 = 63 Do with old stones
84 × 3/4 × 1 = 63 Do with new stones
88 not wanted
36 × 3/4 × 1 = 27 Do with old stones
36 × 3/4 × 1 = 27 Do with new stones
32 not wanted as far as Muntapum

Old Stone C.Yds 90 at 6. 6 per C.yd Rs 36. 9. -
New Do C.Yds 366 at 12. 6 per C.yd Rs 285. 15. -
Rupees 322. 8. -

304 × 3 × 2 = 1824 Filling in rear
294 × 3 × 2 = 1764 Do do of work done last year

Earth C.Yds 3588 at 6 pice per C.yd Rs 112. 2. -
Total Rupees 434. 10. -

Do for Sluice.

28 × 18 × 1/4 = 7 7/8 Foundation
56 × 1/4 × 1/2 = 7 Side walls

Old Cut Stone C.Yds 14 7/8 at 2 Rs per C.yd Rs 29. 12. -

56 × 3/8 × 3/4 = 15 3/4 Side walls
56 × 1 1/4 × 3/8 = 26 1/4 Arch
4 × 3/4 × 3 = 9 Rear retaining wall.

3

3 × 3/4 × 2½ = 5 5/8 Front wall.

Bk in Chm C.Yds 56 6/8 at 2¼ Rupees . Rs 127. 6. 6

30 × 4 × 4 = 480 Excavating foundn

Earth C.Yds 480 at 6 pice per C.Yd Rs 15. — —

Total Rupees 172. 2. 6

Repairs to tank bund.

60 × 4 × 2 = 480 ft. 22 × 2¼ × 2 = 99 ft.

60 × 3½ × 1 = 210 ft. 22 × 2 3/4 × ½ = 30¼ ft.

Earth C.Yds 819¼ at 6 pice per C.Yd Rs 25. 9. 3

Ramming down — Rs 2. 8. .

Rupees 28. 1. 3.

Seeroonaiken Colum

Limits of Pulusy.

Supplied by the Surplus of Veapoory Colum

Estimate for a Sluice

20 × 3/4 × ¼ = 3¾ Foundation

40 × ¼ × ¼ = 2½ Side walls.

20 × 3/4 × ¼ = 3¾ Covering

1½ × 1½ × ¼ = 3/8 Flooring

1½ × ¼ × 1 = 1/16 Basin walls.

Old Cut Stone C.Yds 11/16 at 2 Rs Rs 22. 14. .

40 × ¼ × 3/4 = 7½ Side walls

20 × 1 × ¼ = 5 Covering

5¼ × ¼ × 1¼ = 1 5/8 Basin walls

3 × 5/8 × 2½ = 4 6/16 Rear walls

3 × ½ × 2 = 3 front wall

Bk in Chm C.Yds 21 13/16 at 2¼ Rs Rs 49. 1. 3

25 × 3 × 3½ = 262½ Excavating foundn

Earth C.Yds 262½ at 6 pice per C.Yd Rs 8. 3. 3

Total Rupees 80. 2. 6

Do. for Calingula.

4 × 4 × 1¼ : 20 Raising Calingula

Old Rd. Stone C.Yds. 20 @ 6 Ans. per C.Yd. Rs. 7. 8. ..

8 × ½ × 2½ : 10 Front wall.

Bk. in Chm. C.Yds. 10 at 2¼ Rs. per C.Yd. Rs. 22. 8. ..

40 × 3 × 1½ : 180 Raising bank

Earth C.Yds. 180 at 1 Anna per C.Yd. Rs. 11. 4. ..

Rupees 41. 4. ..

Strengthening bund of Tank

50 × 1 × 2½ : 125 @ 1 Anna per C.Yd. Rs. 7. 13. ..

Maunoor Anicut.

across the Shunmorganuddee.

Limits of Maunoor

Revised Estimate for Anicut

5 × 3 × 1½ : 22½ 5 × 3 × ¾ : 11¼ 6 × 3 × ½ : 9 8 × 4 × 1½ : 48	Repairing body of Anicut with old stones.
18 × 5 × 2 : 180	Closing breach with new Dindor Stone
18 × 3 × 1½ : 81	Do. Do. with new rough stones
4 × 2 × 2 : 16 4 × 3 × 1½ : 18	Repairing body of Anicut with old Dindors
8 × 6 × 1½ : 72 11 × 1½ × ¾ : 12⅜	Do. Do. with old stones.

New Dindors C.Yds. 180 at 2 Rs. — Rs. 360. .. ..

Old Do. C.Yds. 34 at 1 do. — " 34. .. ..

New Stones C.Yds. 81 at 12 Ans. — " 60. 12. ..

Old Do. C.Yds. 175⅞ at 6 Ans. — " 65. 10. 9

20 × ½ × 3 : 30. Front wall across breach

Bk. in Chm. 30 at 2¼ Rs. per C.Yd. — " 67. 8. ..

Total Rupees 587. 14. 9

Paravonthalaur Anicut

across a River of the same Name

Limits of Calayamoetoor

D° for a Wing Wall & Caling

20 × 1 × 1 = 20 Foundn & Wing

20 × 3/4 × 2 1/2 = 37 1/2 Wall above

Old R° Utme CYd 57 1/2 at R° 1. 11. .. R° 97 .. 6

12 × 8 × 2 1/2 = 240 Filling in rear

Earth CYd 240 at 6 pice per CYd R° 7. 8. ..

Rupees 104. 8. 6

Repairs to body of Anicut

20 × 1/2 × 1 = 10 } Front wall
13 × 1/2 × 1 3/4 = 11 3/8 }

60 × 1 × 1/4 = 15 Filling in rear of D°

Bk in Chm CYd 36 3/8 at R° 2 1/4 —— R° 81. 13. 6

Total Rupees 186. 6 ..

Thamara Colum

Limits of D°

Supplied from an Anicut across the Paulaur

D° for Sluice of irrigation.

26 × 1 1/8 × 1/4 = 7 5/16 Foundn

52 × 1/4 × 1/4 = 3 1/4 Side walls

1 1/2 × 1 1/2 × 1/4 = 9/16 Flooring

5 × 1/4 × 1 1/2 = 1 7/8 Basin walls

Old Cut St in Chm CYd 13 at 2 R° —— R° 26 .. ..

52 × 3/8 × 1/2 = 9 3/4 Side walls

26 × 1 1/4 × 3/8 = 12 3/16 Arch

4 × 3/4 × 2 1/2 = 7 1/2 Front wall

4 × 3/4 × 3 = 9 rear wall

6 × 3/8 × 1 1/2 = 3 3/8 Basin walls

Bk in Chm CYd 41 11/16 at 2 1/4 R° R° 94. 1. 3

30 × 4 × 4 : 480 Foundⁿ

Earth C.Yᵈˢ 480 at 6 pice —— Rˢ. 15 - .. ..

Total Rupees. 135 - 1 - 3.

Shamaracolum Anicut.

across the Paular

Limits of Samaracolum.

Estimate for repairs to Anicut.

19 × 2 × 3/4 : 28½ Closing breach with new dindors

19 × 2 × 3/4 : 28½ Do. Do. with old rough stone.

4 × 3 × 3/4 : 9 Do. — Do. — Do.

15 × 1 × ½ : 7½ Raising part of Anicut with new stones

60 × ½ × 2 : 60 Ft wall with Bk. in Chm.

New Dindors C.Yᵈˢ 28½ at 2 Rˢ. Rˢ. 57 - .. ..

Old rough stone C.Yᵈˢ 37½ at 6 Ans. " 14. 1. ..

New do. do. C.Yᵈˢ 7½ at 12 Ans. " 5. 10. ..

Bk. in Chm. C.Yᵈˢ 60 at 2¼ Rˢ. " 135 - ..

Total Rupees 211. 11 - ..

Iyempully Rajavoical.

Ordinary Estimate for 1844.

Constructing a Sluice of surplus at the site of a breach between Pereaina & Chittana.

3 × 3 × ½ : 4½ Foundation

6 × 1 × 2 : 12 2 Side walls

4 × 1 × 2 : 8 Wings in front

Rˢ. St. in Chm. C.Yᵈˢ 24½ at Rˢ. 1 - 11 - .. Rˢ. 41. 5. 6

4 × ¼ × ¼ : ¼ 2 Covering stones

Cut stone C.Yᵈˢ ¼ at 4 Rˢ. per C.Yᵈ. " 1 - ..

Rupees. 42. 5. 6

Brought forward Rs. 42. 5. 6

4 × 2 × ½ : 4 Repairing Chittanis (Rd. Stone)

5 × 1½ × 1½ : 11¼ Blasting Rock in front of do

8 × 3 × 5 : 120 Strengthg. breach (earth)

2 × 1½ × ½ : 1½ Blasting rock

12 × 2 × 2 : 48 Do. Do.

10 × 1 × 3 : 30 Revetment in rear of (R.S.

Old breach wh. appear doay

10 × 2 × 3 : 60 Earth in rear

70 × 1¼ × 5 : 437½ Rd. Stone) } Revetment and closing large breach.

70 × ¾ × 5 : 262½ Bk. in Chm }

70 × 4 × 5 : 1400 Earth }

Rd. Stone C.Yds 471½ at 12 Ans. 6 Pie Rs. 368. 5. 9

Blasting Rock C.Yds 60¾ at 2 Rs. .. 121. 8. ..

Bk. in Chm C.Yds 262½ at 2¼ Rs. .. 590. 10. ..

Earth C.Yds 1580 at 1 Anna .. .. 98. 12. ..

Cutting Jungle and removing

Stones from bed of Channel .. .. 50. — —

Total Rupees 1271 - 9 - 3

Capelapetty Anicut

across the Nungaujee River

Estimate for repairs to Anicut

26 × 3½ × ½ : 45½ Relaying crest of Anicut

Old Dindoos in Chm C.Yds 45½ at Rs. 1. 15 .. Rs. 88. 2. 6

26 × 12½ × 2 : 650 Apron

Old rough Stone C.Yds 650 at 6 Ans. 6 Pie Rs. 264. 1. ..

26 × 2 × ½ : 26 Removing Stones

from Crest of Anicut ..

Rº Stone C Yds 26 at 2 Ant per C Yd Rs 3. 4. ..

Total Rupees 355 - 7. 6.

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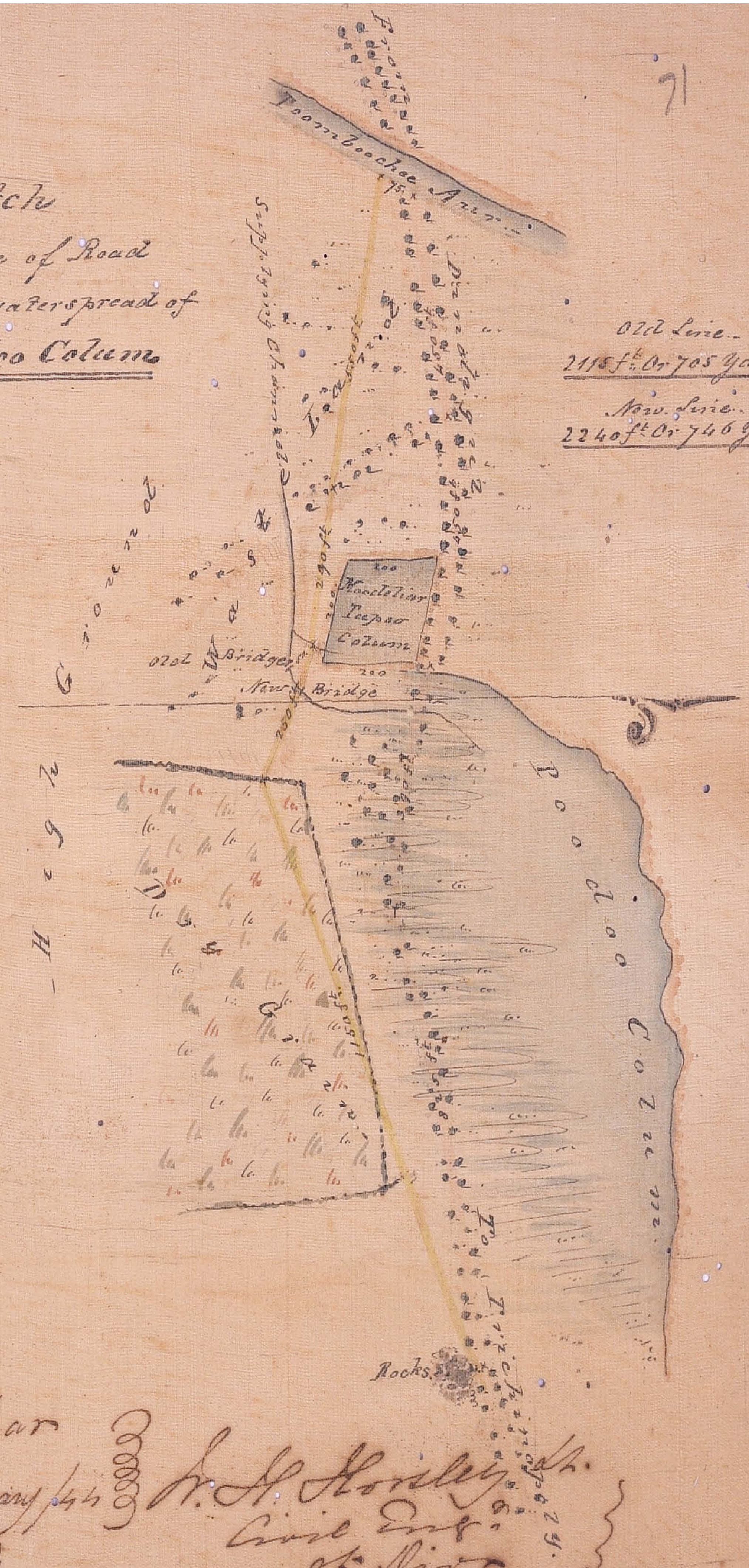
Dindigul
8th February 1844
Recd 11 . 2 B.

J. H. Horsley Lieut.
Civil Engineer 8th Divn

Sketch
of New Line of Road
to avoid the waterspread of
Poodoo Colum

Old Line
2115 ft. Or 705 Yds.

New Line
2240 ft. Or 746 Yds.



Manapar
8th February /44

W. H. Horsley Lt.
Civil Engr.
8th Divn.

9 March

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Madura District
Marangapoory Talook
Thovarancoorchy
From 7th March 1844
Lieut. W. H. Horsley Regt 12th ID
Civil Engineer 8th Division

To

L. Blackburne Esqr
Principal Collector of
Sir, Madura

1. I have the honor to forward for your
29th Feby 1844 information Copy of a letter No. 130 from the
Secretary to the Board of Revenue in the
Department of Public Works on the subject
of the Autoor Bridge over the Codavanaur.

2. If I am not mistaken, you have
already issued orders for the construction
of the two additional Arches on the North bank
as provided for in the Supplementary Estimate
for this work sanctioned by Government
on the 19th May 1842, it is needless therefore
for me to add more on this head.

3. With reference to the 2d Para of the
Secretary's letter, I am not aware of there being
any sickness at Autoor or in that neighbour:
hood at the present time which is likely to
hinder the progress of the work, and conse:
quently I should hope that with proper di:
ligence

diligence on the part of the Tasildar in procuring
materials, the whole of the additional work
might be completed in the present Season
and certainly it is very desirable that it
should be, as well for the safety of the struc:
ture as for the convenience of the Public -

4 By the 3rd Para of the same letter
it would appear that the Board are dis:
posed to believe "that the removal of part
of the present wing walls and the substitution
of two land arches of less dimensions than
those previously built will effect the required
purpose of securing the Bridge from danger,
although the whole extent of waterway that
is desirable may not be obtained -"
The state of the wing walls on the north bank,
however, forbid me to hope that any par:
tial measure of the kind proposed by the
Board will answer the intended purpose.
The whole must come down, and as to the
size of the additional arches, I would
earnestly advise their being of the same span
as those previously built to ensure suffi:
cient waterway in extraordinary freshes.

5. The bed of the river under the
arches, and both above and below the Bridge,
you will observe, is to be paved with rough
stone

75

stone or Cubes laid in the form of an inverted Arch, this however, is not provided for in the sanctioned Estimate and it may be necessary therefore, eventually to obtain sanction for a further outlay on this account:

6. No time should be lost in preparing a sufficient quantity of Materials, (a list of which is herewith forwarded) for the guidance of the Tasildar (and constructing Centrings for two Arches that both may be turned at one at the same time.

7. I would further suggest that the Maramut Superintendent should be employed in superintending this work, as far as the other duties of the District will permit, his presence will no doubt accelerate matters and prevent any accident occurring. He has not yet joined the Department, should he do so, I will take an opportunity of explaining to him how the work should be conducted and he can proceed to Antoor immediately the Tasildar reports that there is a sufficient quantity of Materials on hand.

8. The revised Plan and Estimate for

for this Bridge were furnished to you with my letter dated 22nd June 1842.

I have the honor to be
Sir
Your most Obedt. Servt.
H. H. Horsley Lieut.
Civil Engineer 8th Divn.

Shoraviancoorchy
7th March 1844
Recd. 12th ditto

To
J. Blackburne Esqr.
Principal Collector of
Madura.

1844 Dept.

From
The Civil Engineer
8th Division

To
The Princl. Collector
[illegible]

Dated 7th } March 1844
Recd 12th }

Enclosure 2

No.

Forwarding Copy of a letter from the Overseer to the [illegible] of Rs. [illegible] on the [illegible] of the [illegible] Bridge across the [illegible] with a list of [illegible] required for the [illegible]

No. 130

To

The Civil Engineer 77

8th Division

Sir,

1. I am directed by the Board of Revenue with reference to your Diary of the 26th January last to request you will signify to the Prinl. Collector of Madura their wish that the extension of the Autoor Bridge over the Codaranaur may be proceeded with without loss of time. Under the sanction of Government of the Supplementary Estimate for that work.

Page 29.

...Cons. No. 639
19th May 1842

2. With regard to the nature of the work now to be done it is desirable that you should take into consideration the difficulties arising from the unhealthiness of the place in obtaining workmen and the consequent necessity of not undertaking more than what may be easily finished in the present season.

3. The Board are disposed to believe that the removal of part of the present wing walls and the substitution of two land arches of less dimensions than those previously built will effect the required purpose of securing the Bridge from danger although the whole extent of

of waterway that is desirable may not be obtained. The bed of the river under the Arches and both above and below the Bridge should also be paved with rough Stone or Cubes laid in the form of an inverted Arch, and the wing walls beyond the new laid Arches strengthened and extended if necessary.

4. The Board observe that it would have been more regular had you made a Special report upon the state of the Bridge in question at the time of inspection instead of entering your remarks in your Diary which was not received at this Office till a Month later.

I have &ca

Madras 29th Feby 1845 } Signed/ J. H. Bell
Actg. Secy. Bd. of Rev. D.P.W.

Recd. 12 M3

A true Copy/

W. H. Horsley Lieut
Civil Engineer 8th Divn.

List of Materials required for Autoor Bridge

226½ Cubic Yards of rough Stone	Foundations	
611¼ Parahs of Chunam		
611¼ lbs of Jaggery		
184,575 Wall bricks 9″×4½″×2¼″	Piers, Abutments, Wing walls and Parapets above	
1292 Parahs of Chunam		
1292 lbs of Jaggery		
54,492 Arch bricks 10″×5″×2¼″	Principal and Spandrel Arches	
475¼ Parahs of Chunam		
475¼ lbs of Jaggery		
620 Parahs of Chunam	Plastering	
531½ lbs of Jaggery		

Centring timbers for 2 arches.

2 Wedges

2 Beams 11 × 1 × 1

18 Binders 8 × ½ × ½

300 Joists 8 × ⅓ × ½

Madura District
Marangapoory Talook
Thoranancoorchy
7th March 1816
Recd 12th JB

W. H. Horsley Lieut
Civil Engineer 8th Divn

In a letter from
the Civil Engineer 8th D.
dated 7th March 1819 [illegible]
N. Rec 12th [illegible]

From
The Civil Engineer
8th Division
to
The Prin. Collector
of Madura

List of Materials
required for the
Auton[illegible] Bridge

Department of Public Works

R

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No. 154.

To

The Principal Collector

of Madura

Sir,

I am directed by the Board of Revenue, with reference to your letter of the 14th Ultimo, to state that they will be happy to receive from you any proposition that upon enquiry you may consider feasible for erecting over the Ambravutty river on the road between Dindigul and Palghat, a bridge at the joint cost of the Government and of private subscribers, and to recommend the same to the favorable attention of the Most Noble the Governor in Council.-

No. 24

I have the honor to be

Sir,

Your Most Obedient Servant

J. H. Bell

Asy Secry to the Bd of Rev. D. P. W.

Madras.

11th March 1844

Disp.d 12th Do Do

Recd 18th JB

Comp. of

Recd 18 March 1844
7/2

Public Works Department

83

No. 40

Extract from the Minutes of Consultation
Under date the 8th March 1844.

Read the following letter from the Acting Secretary to the Board of Revenue in the Department of Public Works.

Submitting letters from the Civil Engineer 8th Division on the subject of repairs and improvements to the high Military Road in the Madura District and requesting sanction for Rupees 4,712-3-0 to meet certain excess and for completing the work Observing that the Money for the works executed was obtained from the Devastanum Funds and that it will remain with Government to determine whether the sum now required is to be drawn from the same source. (Here enter 11th December 1843. No 641)

R/

Pending a reference to the Government of India on the application of the surplus funds of Pagodas to works of the nature under consideration, His Lordship in Council is precluded from sanctioning the outlay proposed to complete the Road from the same source, but He will not withhold authority to discharge the Amount

which

which the Board recommend for the purpose from the public Treasury, together with the sum already expended in excess of Estimate, Amounting in all to Rupees 3556.1.5.

Excess of Estimate 1842
Completing Road No. 4 } 17[illegible]
3556

(Signed) G. D. Drury
Chief Secretary

No. 82

Ordered to be communicated to the Principal Collector of Madura and Civil Engineer of the 8th Division.

Madras.
11th March 1844.
Despd 12th Do Do
Recd 18th J. B.

[illegible]
Actg Secy Bd of the [illegible]

To
The Principal Collector
of Madura

Compd. [illegible]

Ramnad Zemindary
Cusbah Talook
Tippallanee 3d April
1844.

Recd 5th do

From
Lieutenant H. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqre
Principal Collector
of Madura

Sir

In reply to your letter No. 135, I have the honor to state that I have every reason to suppose the repairs to the Kuttien Pereapitchen Commoy in the limits of Ravanaputty on Road No. 4, provided for in Assistant Revenue Surveyor Barnett's Diary of the 31st October 1843, are sufficient for the purpose, (though not having seen the tank or heard any thing about it from the Maramut Goomastah I cannot speak with certainty on the subject) and as the amount of the estimate, viz Rupees 21-15-8, is more than the "Highest Beriz" derived from the tank perhaps

it

it would be well to enter it under the head of "Extraordinary" as necessary for the safety of the cultivation as well as for the good preservation of the road.

The Meyloor Tassildar spoke to me of a large tank situated on the high Road No. 4 between Meyloor and Madura for which Mr Marrett had prepared an estimate for insertion in the Ordinary Accounts of the current year, but which had been omitted in the list drawn up at the Hoosoor. I do not remember the name of this tank but conclude it must be the Perea Molum Commoy[x] which breached last year and is likewise on Road No. 4. I heard of no other tank which Mr Marrett had estimated for on this line.

[x] Vide Mr Marrett's Diary 30th October 1842

I have the honor to be
Sir
Your Most Obedient Servant
J. H. Horsley Lieut
Civil Engineer 8th Division

Ramnad Zemindaree
Cusbah Talook
Tripatlanee
3rd April 1844.
Do. Recd 5th [illegible]

J. Blackburne Esqre.
Principal Collector
of Madura.

87

1844.

From

The Civil Engineer
8th Division

To

The Principal Collector
of Madura

Dated 3rd } April 1844.
Recd 5 }

Enclosure None

No.

Giving his opinion regarding Mr. Marrett's estimate for the repair of Kuttien Perea putchen Commoy and stating that as the amount exceeds the Highest Beriz derived from the tank it had better be carried into effect as Extraordinary.

Refers to another tank on this line which the Tassildar spoke to him about also estimated for by Mr. Marrett.

Dindigul District
Iyempully Talook
Rajahvaikal
Occasional Estimate.

Commencing at Chinna anna-
64 yards not required
8 × 1 × 1 = 8 Reconstructing revett of rough stone up to south surplus sluice
32 yards not required
20 × 3 × 4 = 240 Widening Channel Removing rough stone & Earth up to Oodapoo-
76 yards not required
12 × 1½ × ½ = 9 constructing revett of new rough stone-
12 × 3 × 1 = 36 Raising bank in rear of revett
44 yards not required
14 × 1½ × 1¼ = 26¼ Reconstructing revett old Rough stone
14 × 1½ × ¼ = 5¼ Raising above with new Rh stone
14 × 4 × 1 = 56 Earth-
28 yards not required
32 × 2 × 2 = 128 Widening Channel
84 yards not required
14 × 1½ × 2 = 42 Reconstructing revett old rough stone-
60 yards not required
22 × 1½ × 2 = 66 Reconstructing revett old Rh stone up to 2nd Surplus Sluice-
22 × 3 × 1 = 66 Raising bank in rear of do
68 yards not required
56 × 1½ × 1½ = 126 rebuilding revett old rough stone
56 × 4 × 1 = 224 raising bank in rear of do
34 × 1½ × 1½ = 76½ reconstructing revett
34 × 1½ × 1½ = 76½ Raising above new rough stone
34 × 4 × 1 = 136 Raising bank in rear of do
8 yards rock not required
24 × 1½ × 1½ = 54 reconstructing revett old Rh stone

24 x 1½ x 1½ = 54 Raising above new Rough Stone
24 x 4 x 1 = 96 raising bank in rear of do
44 x 3 x 1 = 132 raising bank above appear do apor
52 x 1½ x 1½ = 117 Reconstructing revett old Rh Stone
52 x 1½ x 1½ = 117 Raising above new rough stone
52 x 4 x 1 = 208 Raising bank in rear of do
12 x 1½ x [illegible] Reconstructing revett old Rough Stone
12 x 1½ x 1 = 18 Raising above new rough Stone
12 x 4 x 1 = 48 Raising bank in rear of do
180 x 5 x 1½ = 1350 Raising bank earth
24 x 5 x 1½ = 180 Raising bank
20 yards not required -
×70 x 1¼ x 5 = 437½ rough stone } revett & closing large breech -
×70 x ¾ x 5 = 262½ Bk in chun }
×70 x 4 x 5 = 1400 Earth -
Total Old stone in do
Cubic yards 551¼ @ 1 - 13 - 0 per cyd - 999 - " - 9 -
" New stone in do Cyds 279¾ @
Rs 2 - 5 - " per Cyd ——— 646 - 14 - 9 -
" New Rough stone Cyds 437½ @
12 as 6 Pie = ——— 341 - 12 - 9 -
" Earth Cyds 4300 @ 9 Pie per cyd 201 - 9 - 0 -
" Brick in chm Cyds 262½ @ 2¼ Rs =
per cyd ——— 590 - 10 - " -
Total Estimate 2779 - 15 - 3 -

Tinnevelly District
Nellumbalum Talook
Vunnarpattah
17th April 1844 -

W. H. Horsley Lieut
Civil Engineer
8th Div -

Recd 21 Apl JD

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Dindigul District
Iyempully Talook
Rajah Vaikal
Limits of Iyempully

Ordinary Estimate for 1844
Constructing a Sluice of Surplus at the site of a breach between Percautma & Chitta

3 x 3 x ½ = 4½ Foundations
6 x 1 x 2 = 12 2 side walls.
4 x 1 x 2 = 8 Wingwalls in front
Rough stone in C.Yds 24½ at Rs 1-11-
per Cubic yard 41 – 5 – 6
4 x ¼ x ¼ = ¼ 2 Covering stones
at 4 Rupees per cub. yd 1 – " – "
42 – 5 – 6

4 x 2 x ½ = 4 Repairing Chittaua
5 x 1½ x 1½ = 11¼ Blasting rock in front of do
8 x 3 x 5 = 120 Strengthening breach (Earth)
2 x 1½ x ½ = 1½ Blasting rock.
12 x 2 x 2 = 48 do do
10 x 1 x 3 = 30 revett. in rear of old breach near Appear Oodaypoo
10 x 2 x 3 = 60 Earth in rear of do
Cutting Jungle & removing stones Rs 50 – " – "
Blasting rock Cyds 60¾ @ 2 Rs = —— 121 – 8 – "
Rough stone Cyds 34 @ 12 as 6 Pice =
per cyd —— 26 – 9 – "
Earth Cyds 181 @ 1 anna per Cyd 11 – 4 – "
Total Estimate 257 – 10 – 6

Tinnevelly District
Vellumbalum Talook
Vunnarpattah
17th April 1844 –

V. H. Horsley Lieut
Civil Engineer
8th Divn

Recd 21 Apr JB

Tinnevelly District
Nellumbalum Talook
Vunnarpett 15th April 1844

Recd 21 Do

43

From
Lieut. W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esquire
Principal Collector
of Madura

Sir,

Under instructions from the Board of Revenue in the Department of Public Works, I have the honor to furnish you with revised Ordinary and Occasional Estimates for the repair and improvement of the Iyempully Rajahvoikal, in the Iyempully Talook of Dindigul, in lieu of those entered in my Diary of 2nd February.

You will observe that the item for closing breach has been transferred to the Occasional Estimate, the cost of the new masonry wall exceeding Rupees 500.

Considering, however, that the safety of the channel in the ensuing

season

season, will mainly depend upon the prior completion of this latter work, I request, in reference to the accompany-ing Extract of letter from the Secretary, that the items in the Occasional Estimate, which have a red cross prefixed to them may be undertaken immediately and completed before the setting in of the rains of this year.

I return herewith the Annual Ordinary Estimate for 1844 and re-quest you will be so good as to alter the item for Iyempully Rajah Voikal agreeably to the accompanying revised Ordinary estimate.

I have the honor to be
Sir
Your most Obedient Servant
W. H. Horsley Lieut.
Civil Engineer 3d Divn.

Vunnarpett
16th April 1844.
Recd 21 JB
Do

J. Blackburne Esqre.
Principal Collector
of Madura

1844.

From
The Civil Engineer
8th Division
To
The Principal Collector
of Madura.

Dated 16th
Recd 21 } April 1844.

Enclosures

No.

Forwards Revised Ordinary and Occasional Estimate for the Lyem:pully Rajah Voikal and pointing out certain item in the Occasional Estimate to be com:menced immediately. Also requesting that the Ordinary Estimate for 1844 may be cor:rected accordingly.

Tinnevelly District
Nelliumbalum Talook
Vunnarpett 19th April 1844
Recd 22nd JB

From
Lieut. W. H. Horsley
Civil Engineer 8th Dn.

To
J. Blackburne Esqre
Principal Collector
of Madura

Sir,

I have the honor to furnish you with a Plan and estimate of the proposed additions to the Bridge over the Cootavanaur near Autoor for the guidance of the Superintending Maistry.

You will observe that by curtailing the length of the wings on the North bank, which may be done with perfect safety now that additional water way is afforded, sufficient funds will remain to complete the pavements under the arches as directed in Para 3 of the Secretary's letter No 130, Copy of which was furnished to you with my letter dated 7th March 1844.

[margin: 9 February 1844.]

The

The foundations of the old wings will answer for the front and rear retaining walls to pavements under the two additional Arches, on which account these are omitted in the estimate and the pavements between only allowed for -

In building the wing walls small openings, 6 inches square, should be left at intervals of 6 feet to admit of water passing off, the position of these openings is indicated on the Longitudinal Section.

Every other particular connected with the execution of the work was explained to the Superintendent personally so that there will be no difficulty, I should hope, in carrying into effect the intended additions.

I have the honor to be
Sir
Your most Obedient Servant
W. H. Horsley Lieut
Civil Engineer 8th Dn

Vunnarpetth
19th April 1844
Recd 22 Do

To
J. Blackburne Esqre
Principal Collector
of Madura

1844.

From
The Civil Engineer
8th Division

To
The Principal Collector
of Madura.

Dated 19th }
Recd 22nd } April 1844.

Enclosures 2.

No.

Furnishes a Revised Plan and Estimate of the proposed Addition to the Bridge across the Codavanaur near Ahtoor and offers a few particulars connected with the execution of the work.

101

Tinnevelly District
Nelluimbalum Talook
Vunnarpett 20th April 1844
Recd 22nd J B

From
Lieut. H. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqre
Principal Collector
of Madura

Sir,

×16th April 1844. In reply to your letter No 16 requesting my opinion as to whether Bridges or inverted Arches should be constructed in the breached portions of Road No 4, South of Meyloor, I have the honor to inform you that, after a careful perusal of the Tasildar's Urjees, I am disposed to think that inverted Arches or Pavements would answer best in such situations, subject as they appear to be, to great floods and where no bridge, except of large dimensions, would be likely to stand.

Considering the importance of this road and the necessity of keeping it in good repair, I am surprised that the

T

Lassildar did not call my attention to its present state, had he done so, I would gladly have inspected both places re-ferred to in your letter and given my opinion regarding the proper steps to be taken to secure the road from acci-dent in future, but the fact is I only saw him for about half an hour and then he told me that he had obtained leave for a marriage, or some ceremony of the kind, and could not accompany me in my tour of inspection through his Talook. It was quite immaterial to me by what route I travelled; finding, however, that the works between Meyloor and Madura had, for the most part, been examined by Assistant Revenue Surveyor Marrett and that those on the Tiroopoovanum road had not been visited, I arranged my march accordingly.

I regret that it is not in my power to return to Madura, being on the Sick Report, or to send a Surveyor there for the purpose of examining the above localities.

I

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I have the honor to be
Sir
Your most Obedient Servant
H. H. Horsley. Lieut.
Civil Engineer 8th Division

Vunnarpett
20th April 1816
Recd 22 /B

1844.

From
The Civil Engineer
8th Dn

To
The Principal Collector
of Madura

Dated 20th }
Recd 22nd " } April 1844.

Enclosure None

No.

Stating his opinion that pavements will answer better than bridges in the breached portion of Road No 4 South of Meyloor.

Recd 25 April 1844 JD

106

General Remarks on the Superintendent's Estimate for the repair of portion of Road No. 11 from Ramnad to Moodaloor in the Trichinopoly direction.

Leaving Ramnad the road is in tolerably good repair till it reaches the wet cultivation under the Perea Commoy, through which a new Causeway has lately been formed measuring 1700 Yards in length.

The soil is of a loose, sandy description, very false during rain, and not capable at such times of supporting the traffic of the District. The Superintendent, very properly, proposes covering the surface, for ¼ Yard in depth, with the broken materials of the Fort wall, the rate charged, 6 Annas per Cubic Yard, appears high and I should think might be reduced by hiring bandies for the job, on contract. In this distance, 2 irrigation tunnels are required.

The next matter requiring notice is a Bridge of 3 Arches (15 x 5 each) over the Surplus Channel of Perea Commoy. This has not been built, I believe, many Years and yet one of the Arches is entirely destroyed. The fault is evidently in the foundations, which have been

been undermined by the rush of water through the vents - Had these latter been paved, as they ought to have been, the accident might not have occurred, but, as it is, the broken Arch must be rebuilt with the Spandril, Wing and Parapet walls above and pavements laid down to all 3 Arches, as provided for in the Superintendents Estimate - The Bridge requires plastering throughout, which, I observe, is also allowed for in the same.

After passing the Bridge, the same bad soil is met with for a considerable distance - The Superintendent proposes treating the first 1176 Yards in the same manner as above, viz, Covering the surface (after having raised it ½ Yard) with broken stone and brick from the Fort wall, and has allowed 7 Annas per Cubic Yard, the rate being increased on account of the Extra distance - The next task of 1184 Yards, where the soil is perhaps not quite so bad, is treated with red gravel at 3 Ans per Cubic Yard, which, if it can be procured within a reasonable distance, will answer the purpose very well.

Provisments

(6)

Pavements are required to two Bridges over the supplying Channel of Cavanoor Tank the foundations of these are at present entirely exposed from the abrading effects of the stream, and will give way unless protected by Pavements.

The road between the Bridges requires raising for a distance of 780 Yards and a tunnel to be built agreeably to the Superintendents Estimate.

Tinnevelly District
Nelluumbalum Talook
Tunnarpetta
22d April 1844
Recd 25th ?B

W. H. Horsley. Lieut
Civil Engineer 8th Divn.

From 109

Tinnevelly District
Nellumbalam Talook
Vunnarpett 13th May 1844.
Recd 16th do

Lieut. W. H. Horsley
Civil Engineer 8th Dn

To

L. Blackburne Esqre
Principal Collector
of Madura.

Sir,

In returning the accompanying Occasional Estimate for repairs to the Iyempally Rajah Vaikal, I have the honor to draw your particular attention to Columns 39 and 40 in which are entered the same Amounts as in Columns 22 and 23; which appears incorrect, in as much as the proposed repairs are intended more for the security of the present revenue than with a view to increase. It is evident that if the breach, which occurred last December be not properly closed and the bank strengthened in other parts similar accidents may again occur and the Cultivation suffer materially.

Under these circumstances I would beg to suggest the propriety of adding to the Amounts in Columns No 39 and 40, the Estimated loss, below average

average revenue if the repairs be not made. This latter, if I am rightly informed, would be considerable.

I have the honor to be,
Sir
Your most Obed. Servant
W. H. Horsley Lieut.
Civil Engineer 8th Div.

To
L. Blackburne Esqre.
Principal Collector
of Madura.

1844 Depart

From
The Civil Engineer
8th Div.
To The Princip. Collector
of Madura

Dated 13th May 1844.
Recd. 16th "

Enclosure 1.

Returns the Occasi:
:onal Estimate for the
Iyempully Raja Voikal
and requests the Principal
Collector's attention to the
Amount entered in the
Columns 39 and 40
which appears to be
incorrect.

Extract of a letter from the Acting Secretary to the Board of Revenue in the Department of Pub: Works to the Chief Secretary to Government dated 4th April 1844 No. 213.

Madura

An Estimate amounting to Rupees 620-15-5 for constructing under Sluices in the Sholavendan Perianay[?] across the Vigay river.

The work is strongly recommended by the Civil Engineer Lieut. Horsley in order to clear away the accumulations in the bed of the river above the Anicut, by which the supply of water to the dependent channels is injured. A similar measure applied two years before to the Chittanay[?] across the same river was, it is stated, attended with great success.

(Signed) J.W. Bell

Act. Secy. Bd. of Revenue

Extract

Extract from the Minutes of Consultation under date the 2d May 1844 No 443.

The Most Noble the Governor in Council sanctions the Estimate accompanying the foregoing letter Amounting to Rupees (628.15-5) Six hundred and twenty Eight Annas fifteen and pice five.

To
The President & Members of the Bd of Rev. D.M.

(Signed) G. D. Drury
Chief Secretary

No 187

Ordered to be communicated to the Principal Collector of Madura and Civil Engineer 8th Division for their information & guidance.

Madras,
20 May 1844
Despd 23rd D.
Recd 28th ...

Saml Ibbet[?]
Secy Bd of Rev. D.M.

To
The Principal Collector
of Madura

Compd. ...

Recd 11 July 1844

Department of Public Works

No. 358.

To

The Chief Secretary
to Government.

Sir,

The Board of Revenue direct me to forward to you, for submission to the Most Noble the Governor in Council, the accompanying Estimate for the repairs of the Iyempilly Raja Voikal, a channel leading water to several tanks in the District of Dindigul.

The amount for which sanction is solicited is Rupees 2780.15.0. The Estimate has been prepared by the Civil Engineer 8th Division and it provides for closing a breach through which the water passes and strengthening the bank with a new revetment of ... chunam also, for ... where the passage of the w... obstructed.

with letter 20th May 1844.

The Civil Engineer re... necessity for closing the ... he has requested the ...

nce to proceed with the part of the work marked in the Estimate with a red cross and amounting to Rupees 978-0-9.

The revenue dependant upon the channel being in efficient order is about Rupees 6927 annually.

I have the honor to be &ca

Madras
3d June 1844

(Signed) Saml. Best
Secy. Bd. of Rev. D.P.W.

Extract from the Minutes of Consultation
Under date the 29th June 1844 No. 640.

The Most Noble the Governor in Council sanctions the Estimate submitted with the foregoing letter amounting to Rupees (2780-15-6) Two thousand seven hundred and eighty annas fifteen and pice three

(Signed) G. D. Drury
Chief Secretary

To
Bd. of Rev. D.P.W.

No. 312

Ordered to be communicated to the Collector of Madura & Civil Engineer 6th Divn.

Saml. Best
Secy. Bd. of Rev. D.P.W.

To
The Principal Collector of Madura.

Recd 1 Aug 1844 PB

Department of Public Works

No 387 (11)

To

G. D. Drury Esqre

Chief Secretary to Government

Sir,

With Reference to Extra 3 Mins: of Consultation under date 1st March 1842, I am directed by the Board of Revenue to report, for the orders of the Most Noble the Governor in Council, the following circumstances relative to a channel excavated by Mr Blackburne, the Principal Collector of Madura at his own expense, with the view of impeding the spontaneous formation of Salt.

On the 12th February 1841 the proposal to form a cut from a small backwater called Poombaray Perway was first made by Mr Blackburne; but the Board in reply stated their doubts of the practicability of keeping the cut open in spite of drifting sands

sands, and they declined to recommend the project for the sanction of Government.

Mr. Blackburne, who had obtained a favorable report from Assistant Revenue Surveyor Marett with an Estimate amounting to Rupees 1486½ whilst the advantage to be derived was rated as high as Rupees 20,000 Rupees 30,000, nevertheless caused the work to be done and in a letter dated 1st January 1842 to the Secretary Board of Revenue stated as follows -

"I have advanced the sum from my own funds and if the plan succeeds, I shall perhaps do myself the honor of mentioning the facts at some future period - If it fail, the loss is mine and the channel being led through waste, I injure no one by the trial."

On the receipt of the orders of Government dated 1st March 1842, the Board applied to Mr Blackburne for information on the subject but the work was not then completed - It was finished

22^d June 1843. furnished in September 1842, but the Board in the letter No. 312 were not able to report the results to Government as the channel had not then been fairly tried.

In a letter received in the Revenue Department and dated 13th October 1843, Mr Blackburne again adverted to the subject and stated that the union of the sea and backwater had to a certain extent been successful, but that the work had not even then been fully tried - that he was inclined to think that not more than half the expected benefit would be derived from it and that an annual expense of 400 or 500 Rupees would be required to keep open the communication - Mr Blackburne acknowledged that he wrote upon the report of native unscientific servants and left it to the Board to consider what confidence was to be placed in his view of the work - On the 8 January 1844 the Board called on Mr Blackburne for a further report and for an account of the cost of the work - The cost he stated

in

in his letter of the 15 January at Rupees 1004-2-6 Rs. as.
furnishing an account and suggesting that the Civil Engineer should visit the work and report after inspecting it, but on the 10 March, Mr Blackburne stated that he no longer wished for any inspection by the Civil Engineers because the cut, according to information received from his Head Assistant who had visited it and from the Salt Amildar who had watched it from the commencement, had proved an entire failure.

The Board regret that Mr. Blackburne should have been put to so great expense in a vain attempt to secure what would doubtless have been a great public benefit. It would have afforded them much satisfaction had they been able to report the success of his endeavours, but under the actual circumstances they can do no more than submit the matter to the favorable consideration of His Lordship in Council.

I have the honor to be &c
Madras 13 June 1844
(Signed) J. Best
Secy Bd of Rev &c
Extract

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Extract from the Minutes of Consultation under date the 16th July 1844 No. 718 -

The Government observe that the project of Mr. Blackburne which has involved him in unnecessary expense, has failed, as anticipated by the Board of Revenue -

(Above Extract)
(Sigd) G. D. Drury
Chief Secretary

To
The President & Members of the Bd. of Revn. in the D.P.W.

No. 340

Ordered that copy of the Board letter to Government dated 13th June last, with transcript of the above Minutes of Consultation, be communicated to Mr. Blackburne -

Madras,
25th July 1844
Despd. 29th do do
Recd 1 Aug JB

Saml Bell
Secy: Bd. of Rev. D.P.W.

To
The Principal Collector of Madras

Compd. [illegible]

R

Rules and Observations

1. In order to provide in some measure for the works of irrigation being in a fit state to receive water from the approaching rains and freshes every tank and channel &c should be annually inspected, if possible immediately before the monsoon. Repairs of magnitude that have been overlooked or have become necessary since the season commenced, if they cannot be delayed till the following year must be executed at once and charged for as Extraordinary. Filling up hollows in banks caused by cattle paths, repairing trifling injury of turfing and revetments, stopping cuts made through banks, securing temporary sluices, all work that has been rendered necessary by evident neglect or from damage wilfully caused by the ryots, and such as involves very trifling cost, not exceeding in total amount 50 Rupees or one per Cent on the revenue of the work is to be immediately executed by the ryots, or at their cost, if they neglect or refuse to execute them.

2. Such tanks and works as are important and at the same time conveniently near ought to be visited by the Tahsildar himself, others, under his instructions, by the Maistry or other subordinate Officer and Arrangements should be made by them to ensure due attention to the closing and opening of calingulahs and other similar precautions which are of the utmost importance to the safety of the Tanks in heavy rains. When the inspection is complete, a [illegible] should be made to the Collector.

3. The above rule is not in any way to relieve the ryots from any of the labor, which, under the name of unjee or otherwise, has heretofore been performed at their charge, nor from liability to be called on to assist when breaches or other accidents render their services indispensable.

4. The only limit to the amount of Estimates is that they must not exceed the actual revenue of the work, (if Ordinary) nor five times the expected annual increase (if Occasional.) Under these Regulations all the revenue that is derived from irrigated land might if necessary be expended in the ordinary repairs of the works which supply water were it not for the practical limit to that expense which consists in the difficulty of procuring workmen, materials and superintendence sufficient for more than a certain annual portion of work.- The claim of the ryots who pay nunjay revenue, to such expenditure as is required for keeping in good order the works of irrigation is therefore most fully admitted and acted upon.- The works themselves, however, belong to Government and are only lent to the ryots.- It is reasonable to expect from them such care as will prevent trifling injuries from becoming serious, and just to inflict punishment on those who fraudulently, maliciously or negligently injure the works or allow them when injured to remain so, or neglect to use proper precaution for their protection in storms of rain.-

5. All works done at the cost of Government must be measured after completion and also as often as practicable during progress either in the presence of ~~by~~ the Tahsildar or of ~~by~~ another superior Talook servant.- All Estimates except such as are made by the Engineer Department must be made under the orders of ~~by~~ these Officers. The Tahsildar must keep a proper check upon his subordinates and he is accomtable for such of their acts as he has not punished or brought to the notice of superior authority. He is also responsible that the works estimated be well selected, and the Estimates made with care according to measurements of the work required: that the rates allowed in Estimates are reasonable and sufficient: that the execution and measurement of work be not needlessly delayed and that the accounts be speedily and correctly settled: that advances be made in good season and to proper persons, that persons engaged in work be duly paid and that when payment for bad work is objected to, the money be

with-held or recovered. If the works in a Talook are not in good order, the Tahsildar will be to blame, unless he has by representations and otherwise exerted himself to keep them in repair. 126

6. The person who receives advances for a work is answerable for those advances, and may be called upon to refund them or any part of them after one year, unless the work has been done according to the Estimate and constructed of the best materials procurable for the rates allowed. If no other person undertakes the work, the heads of the village and those ryots who cultivate irrigated land are to be called upon to do so and if they are unwilling, the Tahsildar may, after reporting to the Collector and receiving his orders to that effect, hire workmen, purchase materials and cause the work to be done upon the responsibility of the cultivators.

7. The Engineer Department is expected to examine and prepare estimates for all important works, as well as a considerable number of minor works. The maistries and Talook Servants who prepare Estimates are to be guided in so doing by the rules and directions of the Engineer Department.

8. In order that works may be properly carried into effect and that the money granted by Government for particular objects, to be attained by particular by specified works be not otherwise appropriated either through fraud, through carelessness and negligence or in consequence of the obstinate prejudices which are sometimes entertained in favor of old-fashioned works and in opposition to the suggestions of those to whom the duty of planning works is confided and who can only be held justly responsible for the results of those works which have been executed according to their plans and instructions, and as no rule is now universally followed in checking accounts of work, the Officers of the Engineer Department in some cases making deductions from the charges for work unfavorably reported on and, in other similar cases, allowing the full charge to appear unaltered in Diaries and reports of inspections, the Board have resolved on circulating the following rules and on direct

-ing that they be observed from the __________ When a work is inspected by the Civil Engineer or one of his Department, if it be finished, the accounts of expenditure are to be tested by measurement and examination, and the whole work valued. If it be incomplete, the accounts are to be examined, such part measured as admits of it, the value of the work done and the probable cost of what remains to be done, are both to be stated. The value of the work is to be assigned with reference to the quality of the materials, the correctness and goodness of the workmanship.

9 If the work be well done and the charges do not exceed the Estimate for corresponding items, the full amount will be passed by the inspecting Officer; but otherwise, a reduced value, which being entered in his Diary, will be compared with the charges made for the same items and works in the Account Particulars forwarded for the sanction of Government. The Board will not recommend for sanction any larger amount unless the Collector afford explanation that shall satisfy them that the value assigned by the Engineer Department was too small.

10 The Engineer Department must be cautious not to undervalue work, and must make due allowance for real difficulties, as well as for the ignorance and inexperience of those to whom the conduct of some works is now of necessity confided, giving the benefit of a doubt, where any doubt exists, to the workpeople. The correct execution of works will always depend in great measure on clear and full directions having been given to those who are to superintend or execute them. To this point the particular attention of Engineers and Collectors is earnestly solicited. In valuing work, the inspecting Officer must first satisfy himself that the requisite directions respecting the extent and character of the work were given with minuteness and care, for if the workmen err through want of informa-

tion the fault is not theirs and they should not be punished for the negligence of others.

11. If work be done which was not Estimated or ordered to be done by competent authority and which is reported useless, it is not to be measured at all, nor entered in the accounts. If such work be injurious, it should be removed at the cost of the parties who caused it to be done. Every Estimate for a bank or channel should state the total length of it, beginning at one end (which must be specified) and proceeding towards the other, noticing in regular order not only the portions (or taks) to which work is to be done, but those also which are to be let alone. Work done in those parts or taks where no work was allowed in the Estimate, unless subsequently ordered by competent authority, (that is by an Officer or Surveyor of the Engineer Department, by the Collector, Sub Collector, Assistant Collector or Superintendent of Marahmut) is not to be measured or charged in accounts. Levelling and beating earthwork in banks is a separate charge to be made only when allowed for in the Estimate and done properly. Turfing also should be estimated, measured and charged for separately.

12. In cases of palpable and evident fraud, such as when mud has been substituted for chunam, raw bricks for burnt &ca. no charge is to be allowed, in the public accounts until the whole work has been placed in the condition in which it would have been, had the Estimate been honestly acted upon. Any public servant concerned in or privy to such fraud is liable to dismissal or other punishment.

13. In cases of negligent work, where materials are of bad quality, chunam ill burnt, mixed with too much or too little sand, bricks ill burnt or made &ca. a deduction of one fourth may be made from the actual cost of the work, only three fourths of the real expenditure as nearly as it can be ascertained being allowed.

14. If the materials and workmanship are in themselves good, but have been wrongly applied, so as not to answer the purpose of the

Estimate and if the estimated cost of altering the work does not exceed one-fourth of the whole fair charge, the work is to be altered accordingly and the extra cost deducted from the original charge - but if the deviation from Estimate has not materially diminished the efficacy of the work, or unnecessarily increased its expense, the charge may be allowed - but the persons making the unauthorized deviation may be punished.-

15. It is the duty of the Engineer Department to assign a date after which no masonry work should be begun and another date when all masonry work ought to cease for the season. Especially when large works are under construction the period during which it will be safe to carry them on and the degree of progress to be made in order that they may safely cease should be notified.-

16. If a work be injured from having been carried on at a late and unsafe period of the year, unless it can be shewn that it was absolutely necessary to attempt it notwithstanding the risk and that then proper precautions were taken, those to whom the delay is attributable will be held liable to repair the injury at their own expense and until it is so repaired, no charge will be admitted - otherwise, the repairs will be executed and the cost deducted from the original charge.

17.- The earthwork, repairs of a bank, or the excavation of a channel is simple enough to be understood by any one, but it is not to be expected that Tahsildars or other native servants, not Maistries by profession, should be skilled in superintending the execution of masonry works, in making Estimates for them examining their dimensions or the materials of which they are composed.-

18. Tahsildars are <u>generally</u> responsible for the <u>state</u> of the works, <u>particularly</u> responsible for the <u>accounts</u> and expenditure connected with them - but Maistries are particularly responsible that works be executed according to the plans

and instructions of the Engineer Department.

19. When a Maistry visits a work, he must see that it is properly done and that the materials are good. If he find it to be otherwise, he must report to the Tahsildar, and at the same time to the Head Maistry, Superintendent of Marahmut, or to the Collector, Sub Collector &ca. Having so reported, the Maistry is relieved from blame. Maistries should be constantly employed in estimating, marking out, and measuring works, and in examining and reporting on materials &ca. The daily employment of every Maistry should be made known to the Collector by a list in the accompanying Form, which should be sent monthly to Civil Engineers and by them transmitted to the Board. These lists will shew what works are going on at any time of the year in all parts of the Divisions. By these lists, the Civil Engineer will learn who superintended the works which he inspects and values, and he will be enabled to advise the Collector with regard to the employment of the Maistries, some of whom are more skilful in one kind of work than in others. When the Tahsildar receives from the Maistry or another of his subordinate Officers, reports that work is being or has been badly done, he will act according to such special or general rules as the Collector has given for his guidance, reporting or otherwise as the case may be more or less important.

Recd. 21 August 1844
Returned

131

Tinnevelly. Vunnarpet
14th June 1844
Recd 17 JB.

From
Lieut. W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqr.
Principal Collector of
Madura.

Sir,

× 19th March } 1844 × 22d April × 4th June

As requested in your several letters Nos. 117, 176 and 240 I have the honor to forward herewith Plans and Estimate, the latter amounting to Rupees 7168.9., for constructing an Anicut across the Goondaur River, in the Paupancolum Talook of Ramnad, cutting supplying channel from thence to and raising the bank of Soyelgoody Tank and reconstructing two sluices of irrigation in the same.

2. The cultivation under this tank, and others in its vicinity, has fallen off greatly of late years from the want of a regular and sufficient supply of water: the practice hitherto has been to construct a temporary Dam with Earth, sticks and straw and by this to conduct a small stream of [illegible] the tank during freshes in [illegible] A work of this kind, howe[ver] liable to be washed away a[...]

time when it is wanted, I have there:
fore deemed it advisable to substitute
a permanent Anicut in the plan
now furnished, the estimate for which
amounts to Rupees 1962. 6.
3. The Old Channel is breached
in several places and its banks
throughout are so low and weak that
a very large outlay is necessary to
put them in repair, no less than
Rupees 4206. 3. the total distance
from the Anicut to tank being 6 m. 4 f. 158 yds
The soil, however, for the most part
is black cotton and easy of excavation.
The accompanying section of Levels
taken along the Channel and tank
shews the amount of raising required.
4. The repair of the tank itself
is estimated at Rupees 676. 2 to which
must be added a further charge of
Rupees 323. 14 for reconstructing two
sluices of irrigation.
5. A return of Cultivation for
ten successive Fuslees is herewith
furnished. The probable Annual
increase in Revenue from the construct:
[illegible] the Anicut on the Poonaur,
[illegible] repair of the Soyelgoody supply:
[illegible] channel and tank may be taken
[illegible] Rupees 2000. This is considerably
less

less than the promised increase, which, as usual, is nothing short of the whole Agreement Amount. 133

6. I regret very much the delay that has occurred in furnishing you with these documents; press of other business and ill health, both my own and that of other members of my Establishment, have alone prevented their earlier despatch.

I have the honor to be
Sir
Your most Obt. Servt.
W. H. Horsley Lieut.
Civil Engineer 8th Divn.

Tinnevelly
Vunnarpettah
14th June 1836

Recd 17. JD

To
J. Blackburne Esqr.
Principal Collector
of Madura

8th Division

The Princl Collector

of Madura

Dated 14th } June 1844
Recd 17 }

Enclosures 4

No.

Forwards as requested, Plans and Estimate of Rs 7168.9 for constructing an Anicut across the Poonaur River in the Parpan-Colum Talook of Ramnad, cutting Channel from thence to and raising bank of Soyelgordy Tank and reconstructing two Sluices of irrigation in the same

Tinnevilly Courtallum
8th July 1844
Recd 12th JB

135

From
Lieut. W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqr
Principal Collector of
Madura

Sir

In reply to your letter No 313 — 4th July 1844.

I have the honor to state that having at your request referred the question regarding the erection of certain Bridges on Road No 13 between Cottampputty and Conroyputty recommended by the Tasildar of Meylore Talook, to Assistant Revenue Surveyor Marrett, and that officer having inspected the localities and given his opinion in favor of the proposed works, with revised Estimates for the same, and moreover, having myself inquired into and approved of the Tasildar's suggestion to build a bridge of 9 × 3 across the surplus channel of Commoy, in lieu of a small ... stroyed by the freshes of 18... sidered further notice of ... unnecessary

From The Prinl Collector No 378 dated ... November 1842.

Asst Rev Surveyor Marretts Diary of ... December 1842

Civil Engineers Diary of 21st December 1842

You will observe my Diary, referred to in the Margin, that I recommended the above Bridge of 9 x 3 being built at once from the balance remaining from the Sanctioned Estimate for Road No. 13, but, under existing Rules, even supposing any balance existed, such an appropriation of it would not seem to be allowable, I shall, therefore, act upon your present request and endeavour to procure early and separate sanction for the erection of two Bridges one of 9 x 3 in Cottamputty limits and another of 12 x 6 in the limits of Orralaputty. | date as above.

3. In Mr. Marretts Diary, (date as per Margin) a third Bridge of 6 x 3 over the Surplus of Saupagoody Tank in Manapachairy limits is stated to be necessary, but as you do not mention it in your letter, [illegible] acknowledgment, I conclude you [illegible] a different opinion. | date as above

I have the honor to be
Sir
Your most Obt Servant
[illegible] Horsley Lieut.
Civil Engineer 8th Divn.

Tinnevelly, Courtallum
From 12th July 1844
Lieut. W. H. Horsley Recd 15th JD
Civil Engineer 8th Divn

To

J. Blackburne Esqre
Principal Collector
of Madura

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Sir,

I have the honor to acknowledge the receipt of your letter No. 308 with sundry Enclosures in Tamil and, with reference to the 1st Para of the same, to state that I have had a true translation, as I believe, made of the Superintendent's Urzee to the Sub Collector dated 21st June 1844, and do not observe any mention made therein of an "Extraordinary Estimate for filling in the roadway of the Cudavanar Bridge," I conclude, therefore, you allude to the charge of Rupees 64-12 said to have been incurred for embanking the former wings and again removing the Earth from them in separate sanction from the Hon....

3rd July 1844

Vide Civil Engineers Diary of 26th January [illegible]

2. This item, I consider be kept distinct from the [illegible] counts and separate sa[illegible] for the disbursement in[illegible] of "Extraordinary;" if you

be so good as to furnish me with a Bill for the above Amount, with the necessary explanations, I shall be happy to forward it on to the Board for sanction.

3. With regard to the "additional expenditure" alluded to in the 2nd Para of your letter, it does not appear from the Superintendent's Diary from 2[illegible] to 25th May 1842 that such will be necessary, on the contrary, he particularly states at the close of the 4th Para of the above Diary that "he will be able to finish the work within the Estimated Amount", notwithstanding the difficulty experienced in baling out the water from the foundations and the additional 10 feet in length given to the Wings. Consequently there appears to be no [ne]cessity for applying to the Board [for] further sanction.

With regard to the Superin[tende]nt's suggestion of adding 10 feet [to the] Wings, though I see no abso[lute n]ecessity for the additional [lengt]h if it can be done within [th]e Amount, as he states, I [thi]nk [it wou]ld be advisable to make [them 10 feet] in length, instead of [what the E]stimate provides.

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5. The sum allowed for Centring, Sundries &c. is, I consider, amply sufficient to cover all charges, it must be remembered, also, that one half, at least, of the cost of the Centring timbers and other stores will be recovered by public sale and placed to account.

Vide Para 10 & 12 of Cr[illegible] Order No. 10 dated 8th March 1844

6. The Nillacottah Tasildar's request for an additional Arch to a Bridge on Road No. 18 will be inquired into shortly by Assistant Surveyor Mason, by whom, if necessary, a Plan and Estimate will be prepared for submission to the Board along with others of a like nature under preparation in this Office as requested in your letter No. 313.

[illegible] July

I have the honor to be,
Sir
Your most Obt. Se[rvant]
W. H. Horsley
Civil Engineer

Tinnevelly
Courtallum
12th July 1844

[illegible] 15th [illegible]

To
J. Blackburne Esqre.
Principal C[ollector]
of [illegible]

[illegible]

Civil Engineer
8th Division

Princl. Collector
of Madura

dated 12th }
Recd. 15th } July 1842

Enclosure None

No.

Giving his opinion regarding the Maramut Superintendents Diaries and Urzees to the Sub Collector on the subject of the Codavoonaun Bridge and stating that the Survey or Mason has been directed to inquire into the Nellacottah Tasildars suggestion for an al

Civil Engineer Dept.
9th Dist.

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To

J. Blackburne Esqre.
Principal Collector
Madura

Sir,

In acknowledging the receipt of your letter of the 15th [illegible]stant, I beg to inform you, that [illegible] survey of Road No 23, from the boundary of your Collectorate, to [illegible]pully was taken by one [illegible] [illegible] and that I am now [illegible] the estimate, then prepared for this portion. I am at present unable to prepare a plan & estimate for the whole line, up to Tellacottah as requested by you. I have written to the Civil Engineer to furnish [illegible] Instrument for takin[g] [illegible] surveys; and as I may [pro]bably get this, by the time [illegible] to Tellacottah, via [illegible]

Tenkurray, I shall then be
able to attend to your wishes
fully—

I remain
Sir
Your Most Obed^t Servt
H. Mason
Ass^t Rev^e Surveyor
p.D^n

Madura District
Trioomungalum Talook
18th July 1844
Shadakulky—
Rec^d 20th July

From H. Mason,
Ass^t Rev^e Surveyor
Dated 18th July 1844

Tinnevelly District
Nelliambalam Talook
Pallamcottah
6th August 1844
Recd 10th JB

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From

Lieut. W. H. Horsley
Civil Engineer 8th Dn

To

J. Blackburne Esqr.
Principal Collector
of Madura

Sir,

With reference to your letter, No. 378, with enclosures received this day, I have the honor to forward for your information Copy of a letter addressed by me to the Secretary to the Board of Revenue in the Department of Public Works recommending early sanction to an Estimate of Rups. 180-12-. (Copy of which is also forwarded herewith) for a pavement to the Bridge across the Munjal Odey on Road 18; the Nellacottah Tahsildar's Estimate of Rupees 106-8- not allowing sufficient depth to the retaining walls and pavement between. —

2d August 1844.

I have the honor to be
Sir,
Your most Obedient Servt
W. H. Horsley Lieut
Civil Engineer 8th Dn

To
J. Blackburne Esqr.
Principal Collector
of Madura.

18th Inst.

To The Principal Collector of Madura.

Dated 6th August 1844.
Recd 10th

No

Enclosure 1.

Forwards for the Principal Collector's information Copy of a letter to the Secretary to the Board of Rev. in the Depart. of Public Works recommending early sanction to an Estimate of Rs. 180-12-0 for a pavement to the Bridge across the Gungal Aur on road No 18.

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Tinnevelly District
Ambasamoodrum
29th August 1844.
Recd. 8 Septr. 1843

From
Lieutenant W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esquire
Principal Collector
of Madura

Sir,

18th August 1844

I have the honor to acknowledge the receipt of your letter No. 402 with 4 enclosures in Tamil and to state in reply that I consider that the expence of cutting a channel for the passage of the jungle stream South of the Codavan:aur, in the limits of Shenputty, on Road No. 17, as proposed by the Superintendent instead of rebuilding the Arch &ca. of a Bridge of 8 x 4 constructed over the same stream in 1841, should be borne by the party or parties to whose care the building of the Bridge in question was entrusted.

In my Diary of 21st October 1841

1841 when reporting on the same work, I remarked as follows "The arch of this Bridge is cracked and must be taken down and rebuilt": this should have been done at the time and at the expence of the party in fault, seeing that the work had failed before the expiration of one year, and evidently from bad workmanship.

Under these circumstances, and before submitting the Superintendent's estimate of Rupees 45 for sanction as emergent, I beg to be favored with your opinion as to the propriety of calling upon Government for this amount.

I have the honor to be
Sir
Your most Obedient Servant
J. H. Horsley Lieut.
Civil Engineer 8th Dn.

Tinnevelly District
Umbasamoodrum
29th August 1842.
Recd 3 Sept 1842

To
J. Blackburne Esqre
Principal Collector
of Madura

147

Tinnevelly District
Vunnarpettah
30th September 1844
Recd 3d Octr JB

From

Lieut. W. H. Horsley
Civil Engineer 8th Division

To

J. Blackburne Esqre.
Principal Collector
of Madura

2

Sir,

Referring to my letter under date 11th September 1844, I have the honor to forward for your information Copy of one I have just received from Assistant Surveyor Mason, together with a revised Estimate of Rupees 149. 10. 3 for repairing the Pavements of a Bridge across the Codavan Aur, in Anaputty limits, on Road No 2, in the District of Dindigul, and to request that you will be so good as to give directions for the repairs being carried into effect with as little delay as possible agreeably to the provisions of Mr Mason's Estimate, Copy of which has this day been transmitted to the Board of Revenue in the D.P.W. to be substituted for that formerly sent.

I have the honor to be
Sir
Your most Obt Servant
W. H. Horsley Lieut
Civil Engineer 8th Divn

Tinnevelly District
Vunnarpettah
30th September 1844

From the Civil Engr
Gn L dated 20th
Septr 1844

149

Revised

Extraordinary Estimate for repairs to the Coda Aur Bridge on Road No 2 in the limits of Anaputty.

$103\frac{1}{2} \times 2 \times 4\frac{1}{2} = 931\frac{1}{2}$ Front wall to flooring of 3 arches and piers.

$103\frac{1}{2} \times 1\frac{1}{2} \times 4\frac{1}{2} = 698\frac{5}{8}$ Rear do.

$3 \times 3 \times \frac{3}{4} = 6\frac{3}{4}$ Repairing flooring.

Bk in Chun C Feet 1636 7/8 or Cub Yds 60 5/8

at 2¼ Rs. ——— Rs 136. 6. 6.

$207 \times 3 \times 4\frac{1}{2} = 2794\frac{1}{2}$ or C Yds $103\frac{1}{2}$

Earth at 6 pice ——— Rs 3. 3. 9.

Baling water ——— " 10. " "

Rupees 149. 10. 3

Signed / F. Mason
Asst Rev. Eng
8th Division

A true Copy

W. H. Horsley Asst
Civil Engineer 8th Divn

Sent 5 Oct 1844 / B
Recd 6th
Returned 10th

Received 12 October 1844 [initials]

Department of Public Works

B. R. O.

[51]

No. 504

To

The Civil Engineer

6th Division

Sir,

I am directed by the Board of Revenue to acknowledge the receipt of your letter of the 10th September 1844, forwarding an Emergent Estimate for a channel and copy of correspondence with the Principal Collector of Madura.

In Minutes of Consultation dated 8 March 1844. the Government having given authority to Collectors to execute without their having procured previous sanction such works as are necessary but for which there is not time to make Estimates, and there appears no reason for delaying the present work. When the work is done sanction must be obtained from Government for the expenditure within

one

one Month of the period in which it was incurred.

The Engineer has been ap-
pointed to judge the manner in which
works have been executed, and if in your
opinion the bridge for which the channel
is to be substituted failed from bad work
manship, your decision should be consider-
final and should have the support of
the Collector. When a public work con-
structed on Contract or otherwise has been
found to be badly built or of bad Materials,
the Collector or other public servant whose
duty it is to employ the best workmen and
Materials procurable must be held respon-
sible and this responsibility is to be enforced
by fine, reprimand or such other punishment
as his superior, the Collector in the exercise
of his discretion, thinks proper to in-
flict.

In expressing an opinion
that a work is "bad" the term "bad" should
be used in the relative sense of "not so good as
it ought to be all circumstances of locality
&c.

&c., being taken into consideration.

I have the honor to be,

Sir,

Your Most Obedient Servt.

(Signed) S. Best

Secy to the Board of R. D. P. W.

Madras
3rd October 1844
despd. 8th Do. Do.
Recd 12th JB

153

(True Copy)

[signature]

Secy to the Board of R. D. P. W.

To

The Principal Collector

of Madura.

Comp. Aff.

155

Tinnevelly District
Palamcottah
10th October 1844.
Recd 18 [illegible]

From
Lieut. W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqr
Principal Collector
of Madura

Sir,

As requested in your letter No. 500, [margin: October 1844.] I have the honor to furnish you with copies of Estimates for a Bridge of 9 × 4½ on Road No. 13, and for a Tumgar on the Amravattee River on Road No. 2, sanctioned by Government on the 21st September 1844.

2. It would appear, from a former Minute of Government No. 175 para 8, that all works sanctioned and not commenced are to be postponed till further orders, in which case the above cannot be carried into effect at present, notwithstanding that the Government sanction has been obtained. I shall be glad, however, to be favored with

your

your opinion, for I confess I am some-
what doubtful on the subject.

The Estimate for a Bridge over the Shimmorganuddee on Road No. 2 has been delayed for want of time and hands to prepare the necessary plan, but will be forwarded to you shortly.

I have the honor &c.

Sir

Your most Obt Servant

W. H. Horsley Lieut

Civil Engineer 8th Divn

Innecolly
Vunnapettah
10th October 1844
Recd 12 [illegible]

From the Civil Engineer 8th Divn
10th Octr 1844

...of the Expense of a Jungar, formed of two Canoes ...
...g above, to be used on the Amravattee River nea...
...gh Road from Dindigul thro' Pulney and Ordamale...

(15)

...easurements

Length	Breadth	Height	Cub. feet	Particulars of work	Rate	Am...
				The cost of two Canoes, each 28 ft long, 4 ft broad & 2 ft high	75 . . each	
				Platform above two Canoes.		
130	12"	2"	21.8	13 Planks.		
29	5"	3"	4 3/4	3 Stretchers under do.		
40	5"	3"	4. 2	4 Cross binders under do.		
29	5"	3"	3. 4	2 end binders		
36	4"	3"	3. .	6 Supports to the rails		
26	4"	4"	2. 10 3/4	8 Rail posts		
52	2"	2"	1. 5 3/4	4 Cross frames to rails.		
Cubic feet			42. 11 1/2	Wood work	at 1 . . C ft	
				Nails &c.	. . .	
				Two Steps		
72	12"	3"	18. .	8 Planks		
36	2"	2"	1. .	4 frames under do.		
12	1 1/2"	1 1/2"	. . 2 1/4	4 do above do.		
C feet			19. 2 1/4	Wood work	at 1 . . C ft	
				4 iron hooks, staples and nails	. .	
				40 Carpenters	at . 4 . each	
				5 Blacksmiths	. 4 .	
				Sundries at 5 per Cent	. . .	
				Hire of 4 Bandies for conveying the above Jungar from Palghat to Coylm being 65 miles at 1 Rupee per 10 miles per Bandy	. .	

pense required for constructing a Bridge o
the Vadagoor limits in the Districts of Madura

Particulars of work	Rate per	Amount	Total
Bridge of 9 × 4			
undation to Abutments			
ch			
unds to Wings			
ngs above			
andrils			
rapet walls			
terior and Exterior walls			
ooring between			
rk in Chunam	2 4. C	172 6 4	
avating foundation		7 4 9	179 10 7
Repairing road			
epairing road			
ring breach			
pairing road			
rth	. . 6 C	5 11 3	
fing on one side			
on both sides of breaches			
on one side			
fing at	. . 6 . .	. 6 5 6	1 8
Total Rupees			185 12 3

Madura

From 15/ 28th October 1844
Recd 28th JB

Lieut. W. H. Horsley
Civil Engineer 8th Division

To

J. Blackburne Esqr.
Principal Collector
of Madura

Sir,

I have the honor to inform you that I have examined the portion of Trimul Naik's Palace in the town of Madura, referred to in your letter

1st Octr 1844 No. 542, and am of opinion that it may be removed without danger to the other part of the building, but to be on the safe side, I have directed 4 stout buttresses to be built at the end of the long room in a line with the columns supporting the arched roof and to close up the spaces between the arches with a masonry wall 4 feet in thickness. Some repairs, also, are required to the side aisles above, the particulars of which have been explained to Assistant Surveyor Ross, who has volunteered to prepare the plan and Estimate

R

for your information and Approval.

I have the honor to be

Sir

Your most Obt Servant

Madura

28th October 1844

Recd 28th JB

(Sd.) [illegible] Lieut

Civil Engineer 8th Divn

To

The Principal Collector

of Madura

From the Civil Engineer 8th Divn

28th October

1844

Madura
161 2nd November 1844
Recd 2nd [illegible]

From

Lieut W. B. Horsley
Civil Engineer 8th Division

To

J. Blackburne Esqr
Principal Collector
of Madura

Sir,

9th February 1844 — Referring to the 5th Para of a letter No 104 from the Acting Secretary to the Board of Revenue in the Department of Public Works, Extract from which was furnished to you with my letter under date 27th February last, I have the honor to submit for your consideration whether it would not be advisable to remove from the Occasional List of Works for 1845 (herewith returned) the items for raising the

Rs 296. 5. 4
Rs 83. 4. 9.

bund of, and building a sluice in the Poolingoonden Tank in the Tirooomungalum Talook, the Board having declined forwarding the estimate for sanction as it did not appear to them a necessary work.

2. The fact of the Board having expressed themselves to the above effect escaped my recollection or I should have brought it to your notice when

returning the rough draft on a previous occasion.

3. The cultivation under the Pollicurgoundan Tank, appears to be on the increase and Assistant Surveyor Mason, in his Diary of the 30th Ultimo, herewith forwarded, has recommended an outlay of Rupees 81.6.1 for the repair of the bund under the head of Ordinary in 1845, which may be acted on instead of the Occasional Estimate formerly prepared by him.

I have the honor to be
Sir
Your most Obt Servant
W. J. Moseley Lieut
Civil Engineer 8th Divn

Madras
2d November 1844
Recd 2d/11

From the Civil Engr 8th Dn
2d Novr
1844

Madura
163
2nd November 1844

From
Lieut. W. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqre
Principal Collector
of Madura

Sir

July 1844. Referring to the 4th Para of your letter No. 328 I have the honor to inform you that I have examined the proposed site of a Bridge at Comumputty on Road No. 4 in the Tiroomungalum Talook and am of opinion that a Bridge is not required there, the former breach having been caused by the bursting of a tank to the westward at a time when the road was only partially formed and not of the height and strength that it now is. If I am not mistaken, the Occasional road estimate for this year contains a large item for a Bridge of 24 x 6 in the above limits.

With regard to the high raised road round the water spread of the Coottyagoonda Tank, I consider it will be advisable to widen it in one part where it is less than 6 yards

in

in breadth at top, to give additional slope to the sides throughout its whole length, and to gravel the surface, for which, as also for sundry repairs to this line of road in the Tiroomungalum and Mandacolum Talooks, from the boundary with Tinnevelly as far as Madura, the accompanying Estimate provides. + Rupees 2241.

I have the honor to be
Sir
Your most Obedient Servant.
J. A. Horsley Lieut
Civil Engineer 8th Divn

Madura
2nd November 1844.
Despd 4th Do
Recd 5th JB

To
J. Blackburne Esqr
Principal Collector
of Madura.

1844 Sehart

From
The Civil Engineer
8th Division

To
The Principal Collector
of Madura

Dated 2nd
Despd 4th } November 1844
Recd 5th

Enclosure 1

No.

Forwarding an Accompanying Estimate for the repairs and improvement of a portion of the Road in the Tiroomungalum and Madacolum Talooks in the District of Madura amounting to Rupees 2241.6.6

Recd 28 ...

165

Extract of a Letter from the Secretary to the Board of Revenue in the Department of Public Works to the Secretary to Government Public Department under date the 14th October 1844 No 618.

I am directed by the Board of Revenue to forward, for the purpose of being submitted to the Most Noble the Governor in Council, 2 Bills of expenses incurred in the construction of Bridges and the repair and improvement of roads in the District of Madura during the year 1842, of which the following is an Abstract.

	Amount of Bill	Amount sanctioned	Difference
No 1 Bill for two Bridges on the high road from Peliary to Tinnevelly in part of the Estimates sanctioned by Government on the 29th November 1839 for Rupees 8624. 2. 6	4902. 9. 6.	5426. 7. 11.	Less 523. 14. 5.
Also for work performed in the repair and improvement of several high roads in the District of Madura, from the balance of Rupees 20,090. 8. 0. remaining from the			

	Amount of Bill	Amount Sanctioned	Diff
Estimates of Rs. 33,980. 9. 5 sanctd. by Govt on the 15th Feby 1841, and including the sum of Rs. 1842. 3. 1. authorized in para 5 of Mins of Cons of the 8th March 1844. Rs. 18182. 2. 3.		17834. 11. 10	Excess 347. 6
Deduct Amount charged to Surplus Pagoda funds. 7058. 15. 0.			
To Zemindary do. 2394. 2. 6. 9453. 1. 6.	8729. 0. 9.		
No. 2 Ditto for the repair of various high roads & Bridges executed under Estimates amounting to Rupees 7297. 8. 7. sanctioned by Government on the 21 July 1842.	3552. 7. 7.	4847. 2. 9.	less 1294. 11
	17184. 1. 10.		
Amount sanctioned in Mins of Consultation No. 40 dated 8th March 1844.	1842. 3. 1.		

Total Rupees 15341. 14. 9.

2. The above sum of Rupees 15,341. 14. 9. is in part of Rupees 26,637. 3. 4. disbursed on Roads and Bridges in this District, during the year 1842, of which Rupees 11,295. 4. 7. were originally debited by the Collector to Pagoda and Zemindary Funds but Government in Minutes of Consultation No. 40 8th March 1844 gave sanction to Rupees 1842. 3. 1. from the Sirkar funds pending a reference to the Government

16

vernment of India; reducing this amount to Rupees 9,453-1-6 as shewn in the Abstract and raising the sum charged to Government to Rupees 1,784-1-10 of which sanction still required for Rupees 15,341-14-9.

8 The disbursement on Road No 4 from Trichinopoly to Palamcottah amounts to Rupees 8698-2-2 the largest item of which is Rupees 5189-7-4 for a Bridge across the Goundanaur in the limits of Sheveracotay of Trooumungalum Talook. The remaining items are for the construction of several small Bridges and Tunnels and for raising and gravelling road. As the Government have been already informed in

dated 11th December 1843. a letter from this Department No 641 of the manner in which the several works on this road had been executed and of the causes which led to additional expenditure when their sanction was solicited to the sum reported to have been spent in excess of the

estimated

estimated provision, the Board do not consider that further explanation on the several items can now be required.

The Bills have been examined and found correct and the Board recommend that sanction be given for the Amount of Rupees (15,341. 14. 9.) fifteen thousand three hundred and forty one, Annas fourteen and pice nine.

(Signed) S. Best
Secy Bd of R. D. F. W.

Extract from the Minutes of Consultation under date the 16th November 1844 No. 226.

The Most Noble the Governor in Council sanctions the balance of the Bills submitted with the foregoing letter, amounting to Rupees (15,341. 14. 9) Fifteen thousand three hundred and forty one, Annas fourteen and pice nine.

(Signed) J. F. Thomas
Secy to Govt

To
The Board of Rev D. P. W.

No. 477

Ordered that Extract from the foregoing correspondence be communicated to the Principal Collector of Madura

Saml Gray
Secy B^d of Rev^e

Madras
18^t November 1844.
Despd 25 D^o
Recd 28^d [illegible]

To
The Principal Collector
of Madura

[illegible]

171

Dindigul District
Toddicombo Talook
Vadamadura 22nd November
Recd 28th /11 1841.

From
Lieut. J. H. Horsley
Civil Engineer 8th Division

To
J. Blackburne Esqre
Principal Collector
of Madura.

Sir,

I have the honor to inform you that, in conformity with the request conveyed in your several letters Nos. 328, 387, and 566, I have thoroughly examined the portion of Road No. 4 between Madura and Cacharoyenputty, as also the tanks on either side by which it is annually endangered, and beg to furnish you with a detailed Occasional Estimate for its repair and improvement amounting to Rupees 5517-7-6.

In Shallacolum and Oothengoody limits I have allowed for widening and sloping the sides of the raised causeway, to give it more strength, and for gravelling the surface, the subsoil being of the

descriptive

denomination "Allar" and incapable, when wet, of supporting the traffic brought upon it without running into ruts and gullies. For the more efficient drainage of this portion of the road I have provi: ded curved Pavements, one of 25 yards in length in Thullacolum limits, and another of 50 yards in length in Oothengoody limits. These I consider will answer the pur: pose far better than additional Bridges and are less expensive. The floor of these works is to be ½ a yard above the level of the country. In Ordinary sea: sons the water will pass off by the present Bridges, and in Extraordinary, when its depth is above ½ yard, it will find ready escape over the curved pave: ments; thus they will act as surplus Calingulas and preserve the causeway from injury. The pavement of 50 yards in Oothengoody limits is essentially necessary. The surplus Calingulas of Oothengoody Peria colum measures 54 yards in length, besides which there is considerable drain: age from the Pauliaur and other minor streams which intersect the road hereabouts, and for all this the only way of escape

escape at present is through numerous small bridges, the aggregate water of which amounts to about 32½ Square feet.

In Rayacoorabeeram limits, I have allowed for widening and sloping sides of causeway and gravelling above, also for a Pavement of 15 yards in length to afford additional drainage.

In Chittumputty limits, I have substituted a pavement of 10 yards for a broken tunnel and allowed for carrying the road through the bed of Cadamba Colum with a Bridge of 9 feet in the centre of the causeway. Also, for widening and sloping causeway and floorings to two Bridges.

In Naranyapetty limits two tunnels are necessary in rear of Velley Cummoy, and the road, also, requires widening and gravelling. The surplus of this tank crosses the road a short distance further on and occasions breaches. To prevent such in future, I have allowed for a Pavement of 20 yards over which the water will pass freely and without causing any obstruction to traffic. At the distance of 11. 7. 50 from Madura.

J.

I propose to alter the direction of the
road slightly, so as to carry it clear of the
water spread of a tank on the South.
The new line will pass through paddy
fields for a short distance, but there
ought to be no objection as the land I
believe, is the property of the Sircar, and
moreover if necessary, the ground oc:
cupied by the present road can be given
as an equivalent. 2 Tunnels of irriga:
tion will be required on the new line
and are allowed for in the estimate.
Another tunnel is wanted at the dis:
tance of ¼ a mile from the above,
and the road should be raised to the
commencement of causeway in
Theekaleevoo limits.

Here two pavements of 25 yards
in length are necessary for the due se:
curity of the road during heavy rain.
The sides of the causeway require addi:
tional sloping and the bunds of Pu:
rungay Yamdel and Percacunagoody
Cummoy should be widened in parts
where the breadth on top is less than
6 yards.

In Sunaygoondoo limits, also, a
pavement

175

Pavement of 25 yards length is requisite, together with repairs to causeway, the latter to be continued as far as 16. 3. 135 (M. F. yds.) in the limits of Meyloor, after which the road is in excellent order up to the commence-:ment of the causeway in Ravenapootty limits. Here, as in the former instances, sloping has been allowed for and a pave-:ment of 15 yards for the passage of surplus from the Kuttyen Peracpitchen tank.

In the Toombapootty limits the principal obstacle is a breach opposite to the surplus channel of Copalagoody Tank. This, however, cannot be remedied until the tank is supplied with a Calingula of discharge, (estimated for in my Diary of 7th November) for whatever repair the tank bund may receive, the surplus must pass off, and no ordinary sized Bridge would be suffi-:cient for the purpose. All that can be done is to slope the road on either side of the surplus channel and construct what is termed, a Yekkul'ann or Dam across it a short distance below. The bed of the channel is composed of soft, fria-:ble rock, the surface of which must be

smoothed-

smoothed. A tunnel of 3 × 2 is necessa-
ry further on in the same limits and
some repairs, also, to causeway.
In Cucherayenputty limits, I
have allowed for extending these tunnels
of irrigation and for constructing a Pave-
ment, 10 yards in length, at a place
where a breach annually occurs. Also,
for widening and sloping the sides of
causeway, upto the supplying channel
of Eyvale Cominoy. I have not thought
it necessary to bridge this latter stream
as its depth is never so great as to
form an obstacle to traffic and the bed
is sufficiently firm. Beyond this the
road is very much cut up by the drainage
of the high lands and is little better
than a bed of sand. Wide trenches
should be opened outside the avenue
trees and the earth from these thrown
up as an embankment to protect the
road. Care should then be taken to lead
all the streams into these side channels
and to keep them there in future.
The above are the chief items of
repair and improvement necessary to this
important thoroughfare for a distance

of

M. F. Fur.
of 24. 5. 35 from Madura Northward
to Trichinopoly and are recommended for
insertion in the Occasional Estimate of
1845.

Estimates for the repair and im-
:provement of the several tanks, the sur-
:plus of which crosses the road, are given
in my Diary of the present Month.

I have the honor to be
Sir
Your most Obedient Servant
J. H. Horsley Lieut.
Civil Engineer 6th Division

Dindigul District
Toddicombo Talook
Vedamadura
22nd November 1844.
Recd 28th ..

To
J. Blackburne Esqr.
Principal Collector
of Madura.

The Civil Engineer
8th Division
To
The Principal Collector
of Madras
Dated 22nd } November
Recd 28th } 1826
Enclosure 1.
No.
Reporting on
Road No. 4 for 24½
Miles North of
Madras and sub-
-mitting an estimate
for its repair and
improvement amoun-
-ting to Rupees 517-7

C